PENCIL POINTS

VOLUME VI SEPTEMBER 1925 NUMBER 9

MODERNISM AND TRADITION

THE new practical requirements resulting from changes in the ways of living and of conducting business have to be met by present-day designers and a suitable architectural expression has to be given to these requirements.

There is a strong effort on the part of many architects in this country to produce architecture that is vital, in fact they feel themselves practically compelled by the advances and changes in the world around them to produce designs better suited to our times and needs than the scholastically correct buildings produced a generation ago and still admired for the scholarship they display.

In this striving after a new expression in architecture American architects as a rule make full and intelligent use of the rich store of historical design inspiration handed down to them by the architects of past generations. They are more inclined to a broad eclecticism and to the free interpretation of traditional design than to radical independence. Their sound training usually prevents them from committing the excesses indulged in by some of the extreme modernists among European designers.

In solving their problems some architects, notably the extremists in Germany and in countries where the German influence is strong, have turned completely away from tradition and sought to build up a method of architectural design entirely independent of everything that the past has to offer. They have produced some designs that look more like battleships than buildings, and many that look utterly unlike anything ever seen or imagined before. They have done this by what they believe to be the logical development of the design in terms of the materials of construction. Many of these buildings are of concrete and have the appearance of having been cast entire in a mould rather than of having been built. Some of these designs were shown at the Architectural Exposition in New York last spring and not long ago much space was devoted to designs of this kind by one of the leading British architectural journals. These things are interesting as experiments, weird looking as some of the results may be.

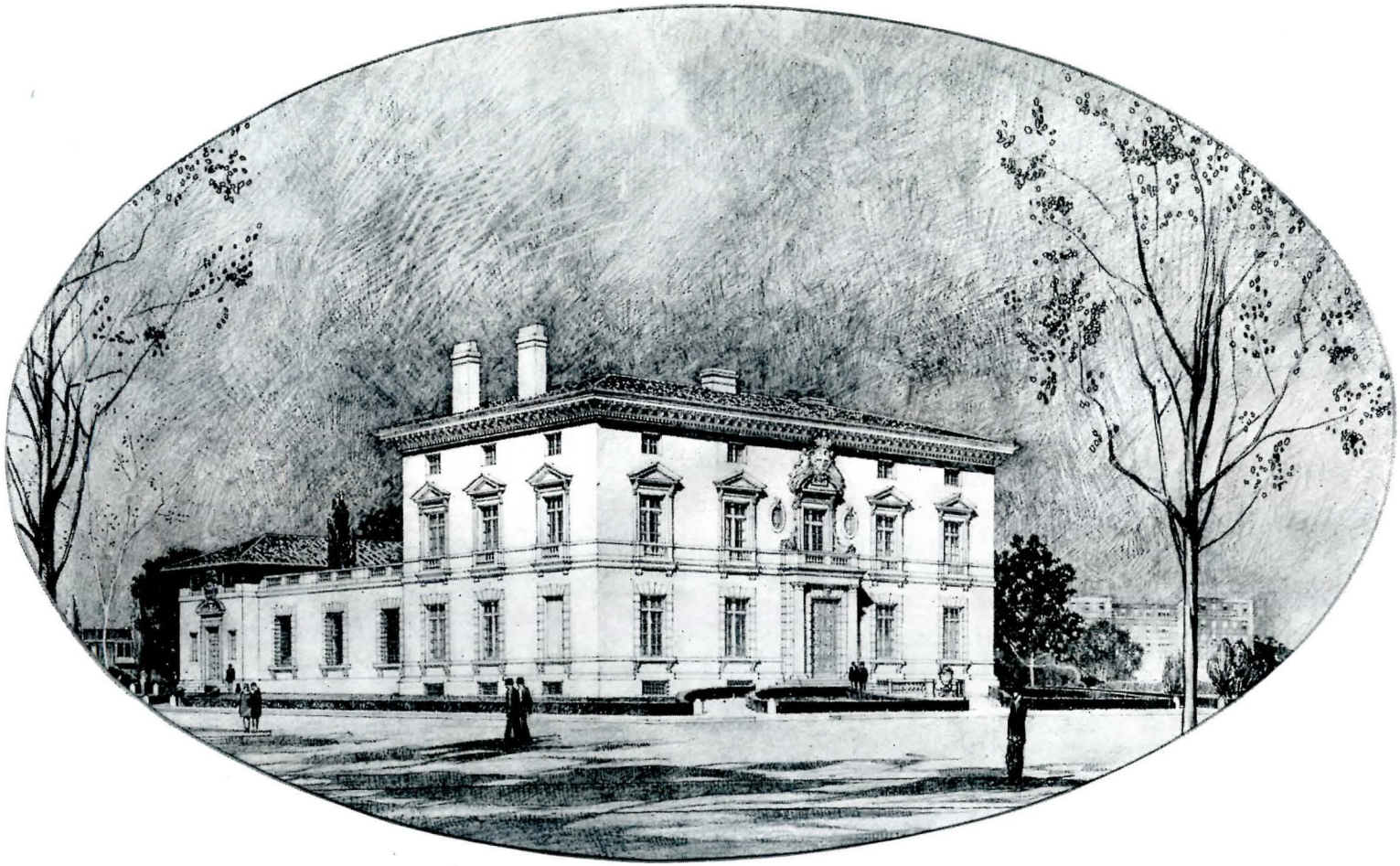
The buildings of the Exhibition of Modern Decorative and Industrial Arts, now open in Paris, show many varieties of Modernism in their design, ranging all the way from the plain cubical Pavilion of the Soviet to the French, British and Italian Pavilions with their distinctive styles of modern treatment. The entrance to the Exposition shows an attempted compromise between pure Modernism and the architecture of the Grand Palais and the Petit Palais, between which this entrance lies. The Exposition is a highly interesting conglomeration of extremist architecture from all over Europe—such an assemblage as has never before been brought together, a riot of Modernism.

The chief style characteristic of practically all of these buildings is the set of mannerisms that has come to be regarded as the basis of the Modern Style, starting with the work which Professor Hoffmann, of Vienna, and Peter Behrens and others did some twenty-five years ago.

Nevertheless, each of these buildings is strongly marked by the national characteristics of the people it represents. This is due partly to a free expression of national taste in form and coloring and partly to the use in a modified way of elements found in the historic design work of these nations. However, it is all embryonic, to say the least, and there is apparent too great a conscious effort to do something different.

A much better way, in theory at least, of attaining a high degree of Modernism is the plan of procedure outlined some twenty-five or thirty years ago by Victor Horta, head of the Art Institute of Brussels for practically a life time. Dr. Horta advised the thorough understanding of practical modern requirements and a thorough study of methods of construction. In addition he advised the analytical study of historic design with a view to gaining an understanding of the basic principles which underlie such design. He proposed that the architect, having had this training, should design not only in accordance with the practical requirements, and the nature of the material but in conformity with the basic principles of good design revealed by the work of the past. Good as Dr. Horta's theory was it seems never to have brought any significant practical results in application. The work of extreme modernists or those who are attempting to make themselves independent of the past, forces upon us the conviction that no man or group of men can create in a life time a manner of architectural expression approaching the excellence of the work produced by those who make proper use of the traditions that have been gradually developed and handed down through thousands of years. It seems to be in the effort to produce good ornament and detail in general that the man who cuts loose from traditional sources of inspiration fails most seriously.

Somewhere between the extremes of ultra-conservation and of radicalism, undoubtedly lies the right path, which men all over the country are trying to find and follow. It is one of the live questions of the day, this matter of modernism and tradition and we should like expressions of opinion from our readers. Won't you write us an informal letter on this subject?



Perspective of the Royal Italian Embassy, Washington, D. C.
Warren & Wetmore, Architects.

THE PRODUCTION AND HANDLING OF DRAWINGS

BY H. DESMOND UPTON

IN AN office doing a general practice and not confining its work to a standardized special type of building, there can be no set drafting room practice in connection with the preparation of the drawings and specifications.

There must be, of course, the fundamental principles that obtain in any well ordered architect's office which require that work be handled in a business like manner, with due dispatch and by competent people, and that the artistic side is neither neglected nor allowed to run wild to the confusion of the job. In other words, the interests of the client must be protected and the contractor held to a fair and correct interpretation of his obligations.

The steps of development may be classified broadly as comprising: (1) sketches, (2) preliminary drawings and preliminary specifications, (3) final working drawings, details and specifications for estimate and contract, (4) further scale details and all full size details necessary for the contractor's information to complete the building.

On preliminary sketches the draftsman must have the following information:

1. General program of Owner's requirements;
2. Location, size and topography of property;
3. Requirements of all governing laws and ordinances;
4. Approximate limit of cube, based on approximate limit of cost. This will also regulate the choice of materials and will influence the character of the design. The Owner's preference in design should be ascertained, especially, if some particular building or buildings embody the Owner's preference in architectural treatment and materials.

When the sketches have been developed far enough to determine the general scheme, the preliminary working drawings can be started safely at large enough scale to allow more detailed study including the structural and mechanical engineering work. These drawings will be the basis of the final working drawings and with preliminary specifications will also serve for preliminary estimate, if wanted.

When all items are sufficiently developed to the Owner's approval, final working drawings, details and specifications for builder's estimate and contract can be produced in minimum time, since the bulk of the study will have been made and there is fair assurance of the general coördination of the architectural, structural and mechanical engineering requirements.

Large scale details that will affect the working drawings should be started coincidently with the working drawings. This will help in reducing the possibility of changes in working drawings and also bring any special problems to the surface for immediate solution.

Specifications should be started as soon as working drawings are blocked out, to allow ample time for materials and finish to be decided before any indications are noted on the drawings. Any special equipment should be taken up immediately with the manufacturers so that all requirements of such equipment involving other trades can be provided for in the plans and specifications.

Information and instructions affecting the drawings or specifications should preferably be in memo form, in duplicate or more copies—one copy to the draftsman in charge of the drawings, one to the specification writer and additional copies to the structural and mechanical engineers if their work is affected. By this method, information reaches all persons simultaneously and affords opportunity for back check. It also obviates many discrepancies and conflicts in drawings and specifications.

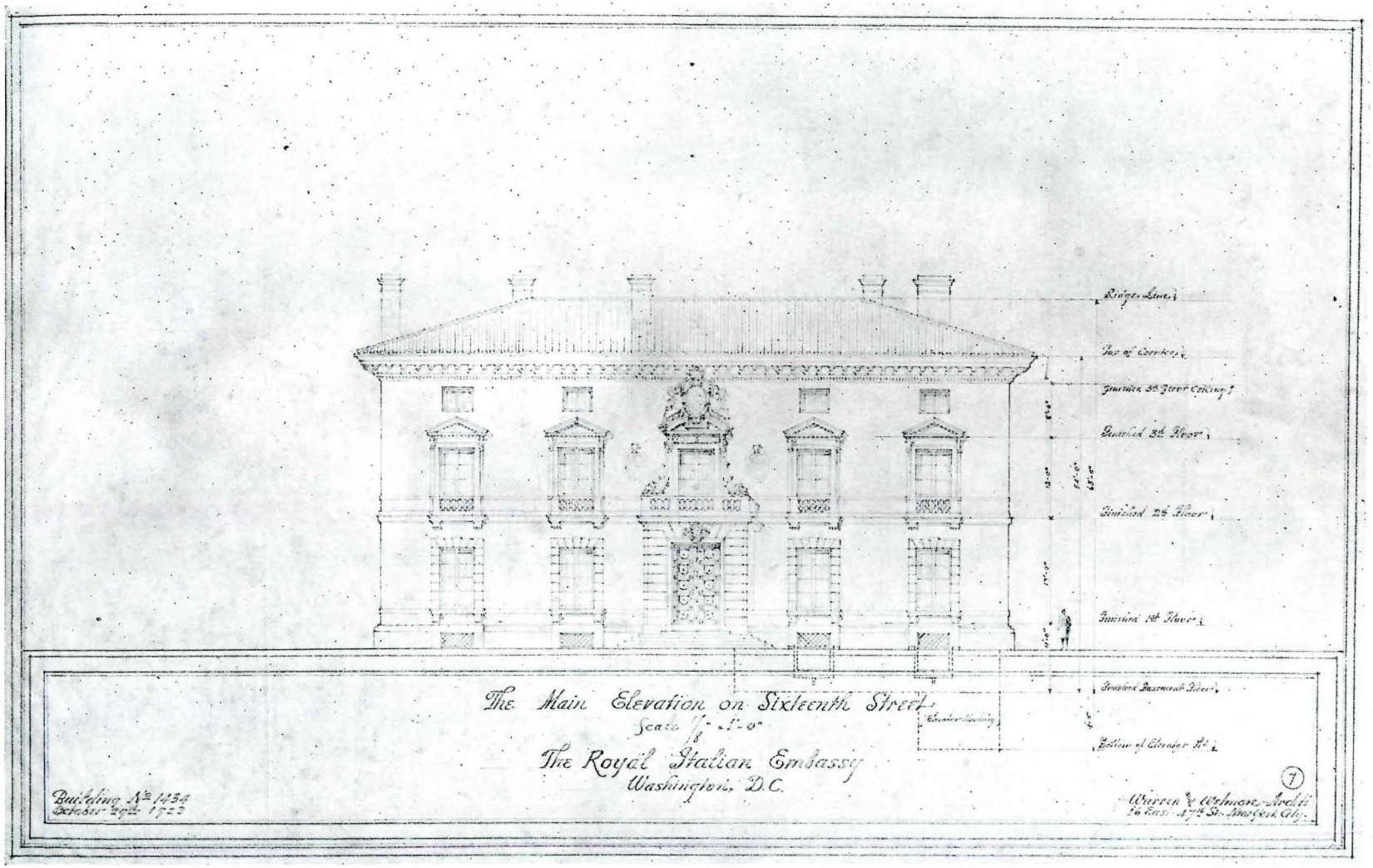
The procedure in the drafting room, from preliminary sketches to final drawings and details, is a matter of proper administration to see that correct information is furnished promptly to the draftsmen, the specification writer, and to the mechanical and structural engineers and that the architectural, mechanical and structural requirements are properly coördinated, and carefully checked against each other to avoid costly alterations and corrections later on—both in the drawings and at the job.

So far as the method of producing the drawings is concerned, this should be systematized to insure uniformity in the quality of the drawings and to produce all the required information without needless repetition or useless elaborating.

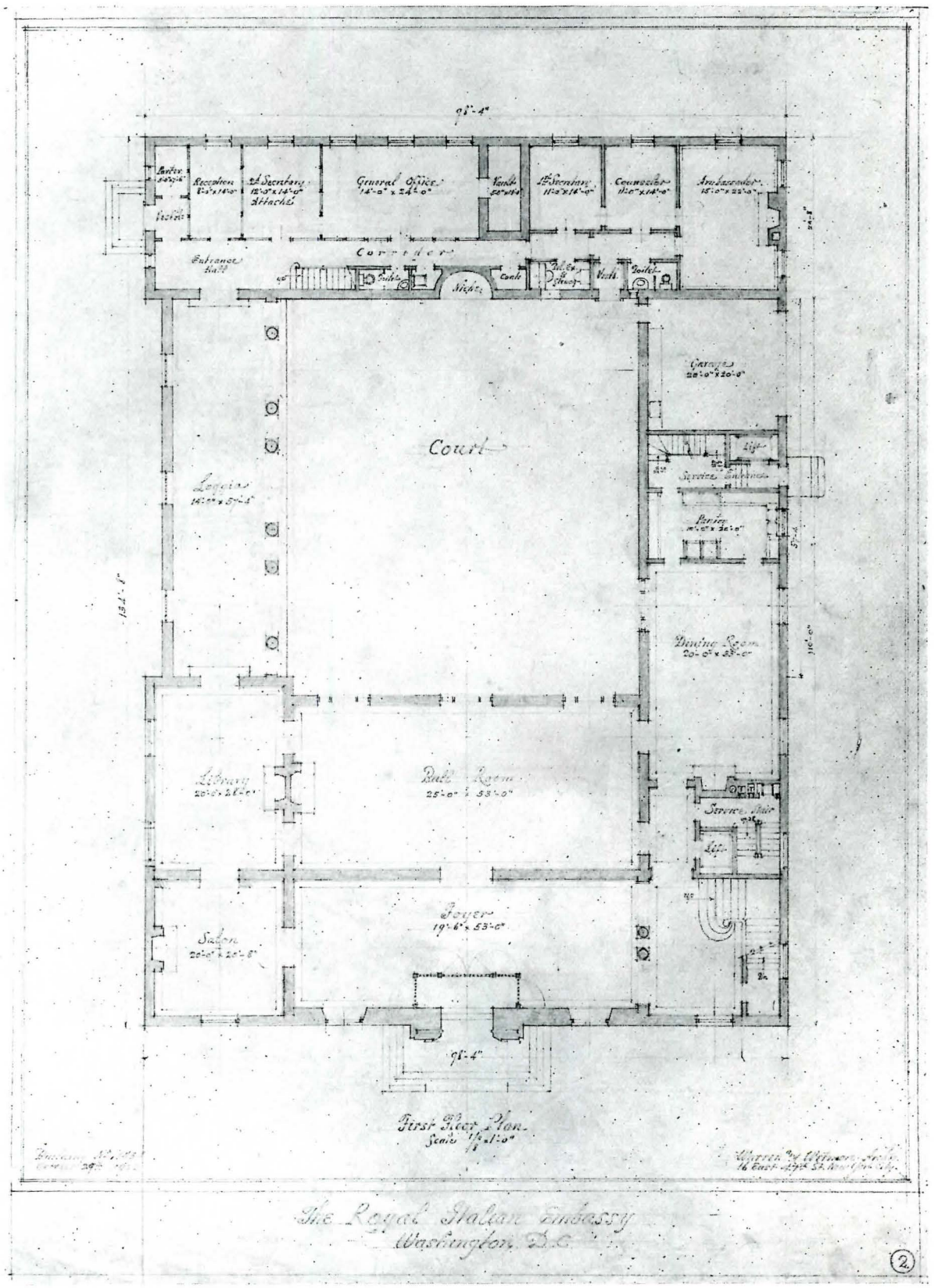
Care must be taken to reconcile the varying degrees of drafting ability in order not to have drawings of similar classification show large differences in quality and appearance. While it is not advantageous to the draftsman to be confined to plans only, nor elevations only for all jobs, the work must be arranged so that, for a given job, the plans have as uniform a quality as possible and likewise for elevations and details. This is not for a matter of appearance, but to preclude items of importance being overlooked, due to the varying drafting ability, as the quality of draftsmanship is often an index to the attitude of mind of the draftsman as to what matters are of the most importance—the design or the construction and practical requirements of a building.

Working drawings and details being essentially instruments of trade, they must be clear and intelligible. Any repetitions or unnecessary indications that tend to confuse the drawings must be suppressed. Neatness and accuracy of draftsmanship

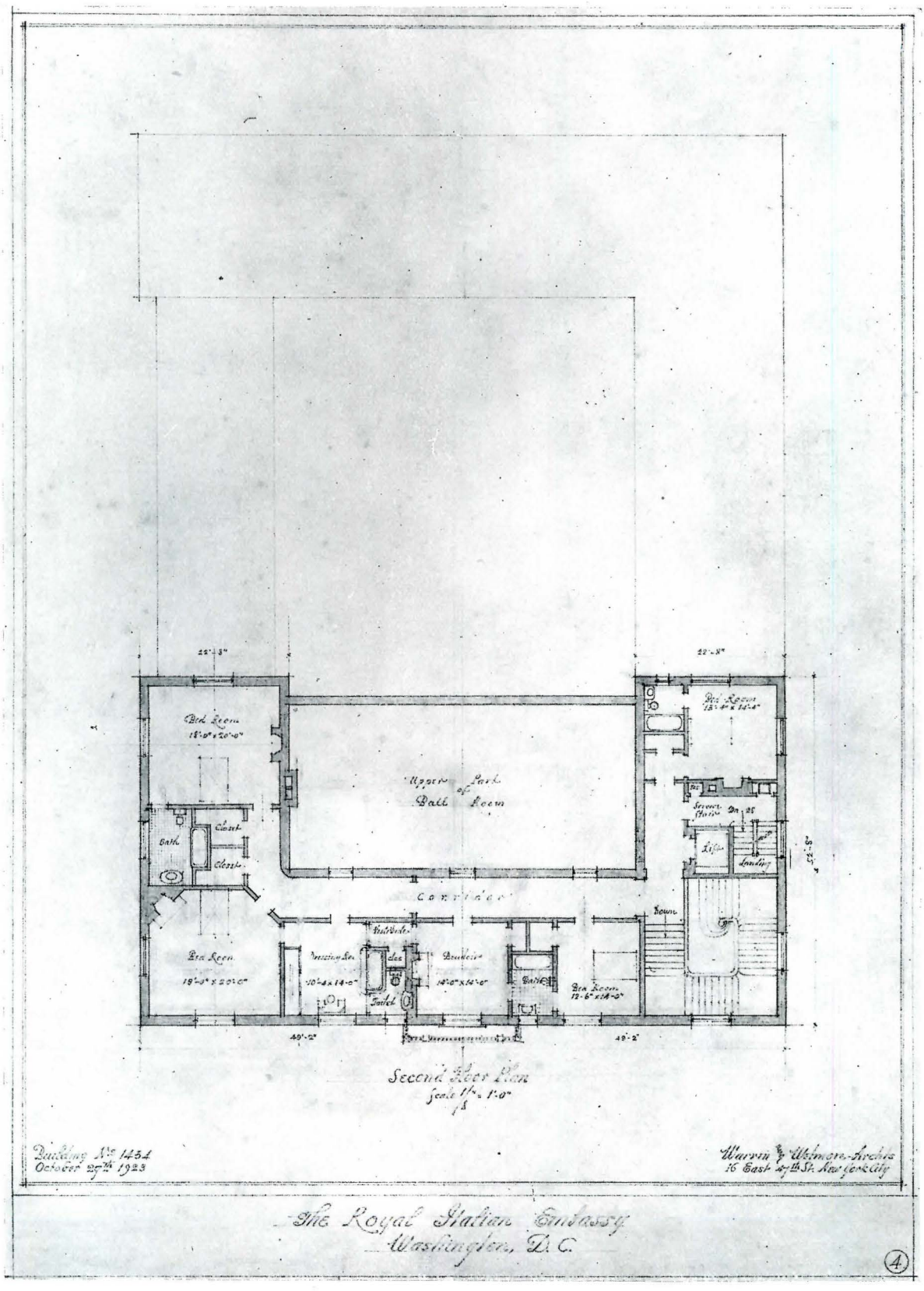
(*Continued on Page* 53)



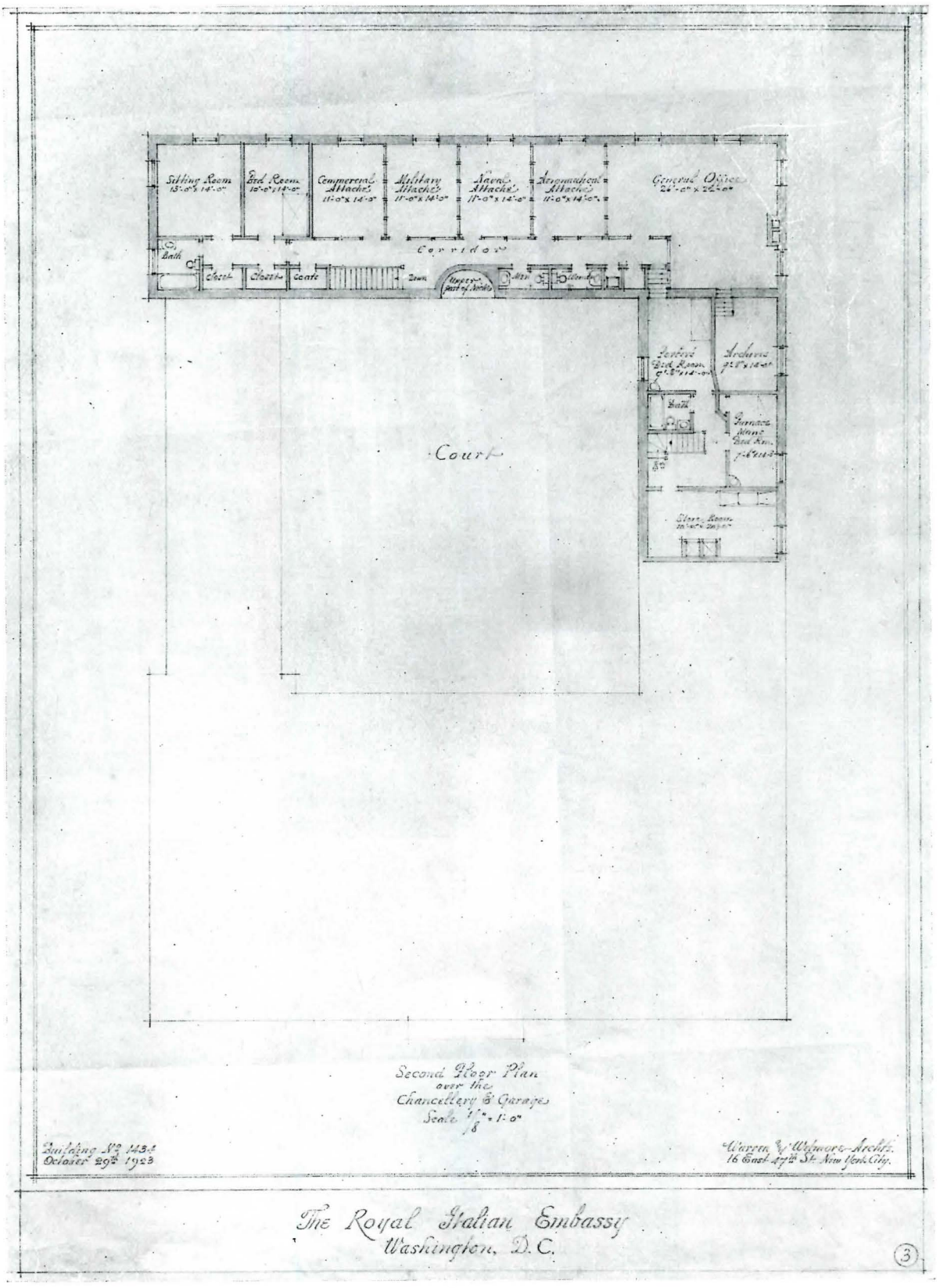
Preliminary Drawing, Main Elevation—The Royal Italian Embassy, Washington, D. C. Warren & Wetmore, Architects.



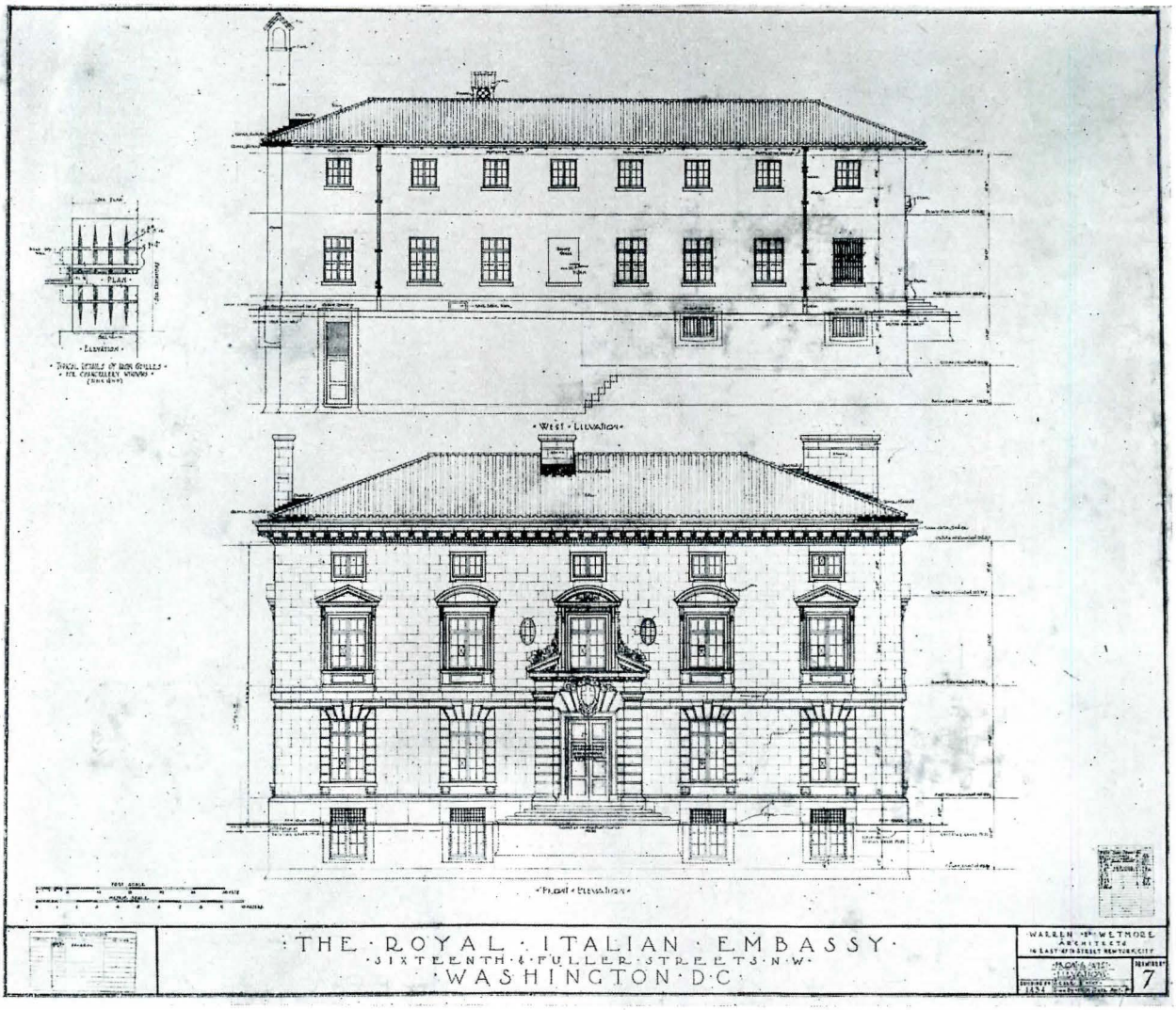
Preliminary Drawing, First Floor Plan—The Royal Italian Embassy, Washington, D. C. Warren & Wetmore, Architects.



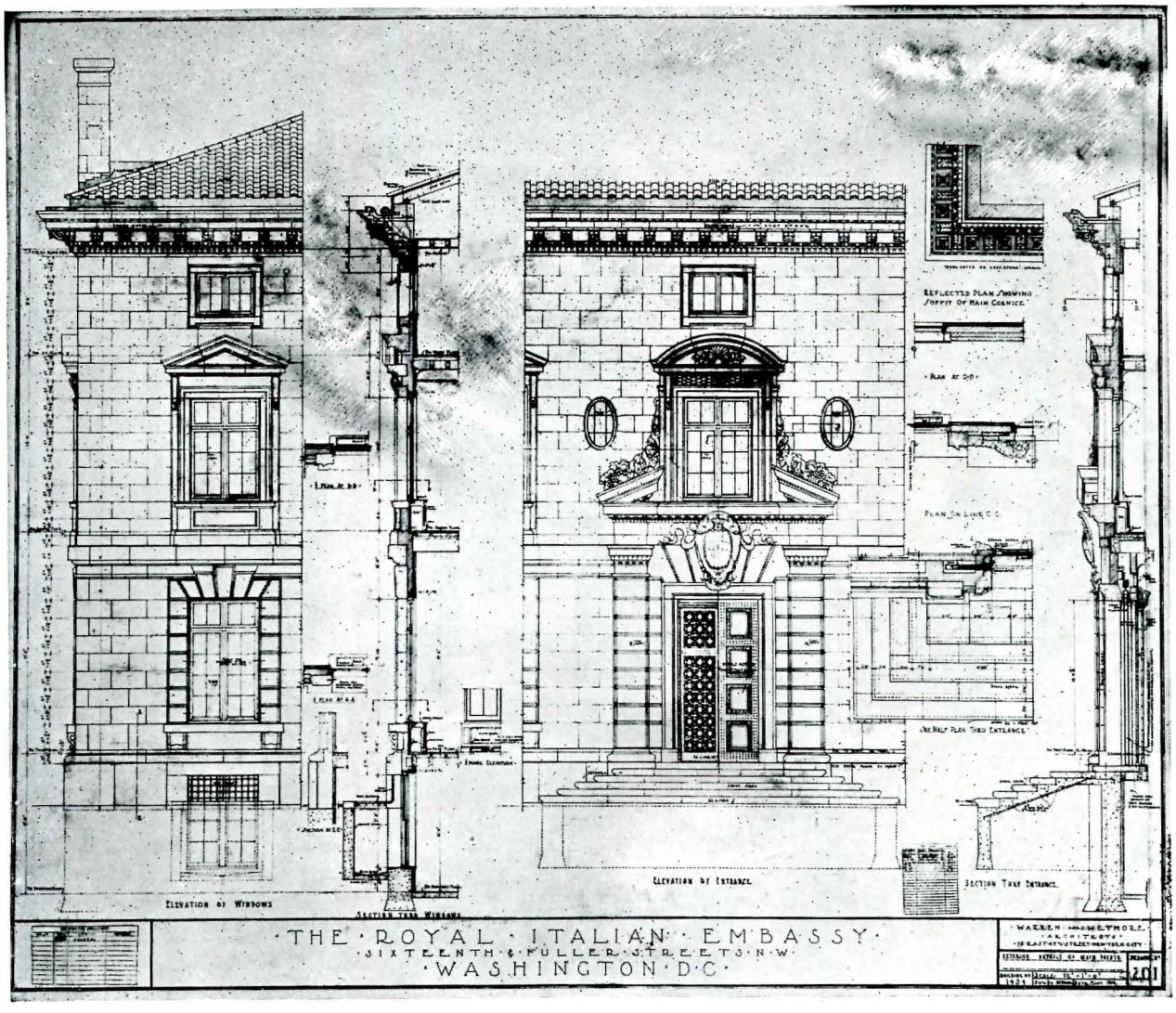
Preliminary Drawing, Second Floor Plan—The Royal Italian Embassy, Washington, D. C. Warren & Wetmore, Architects.



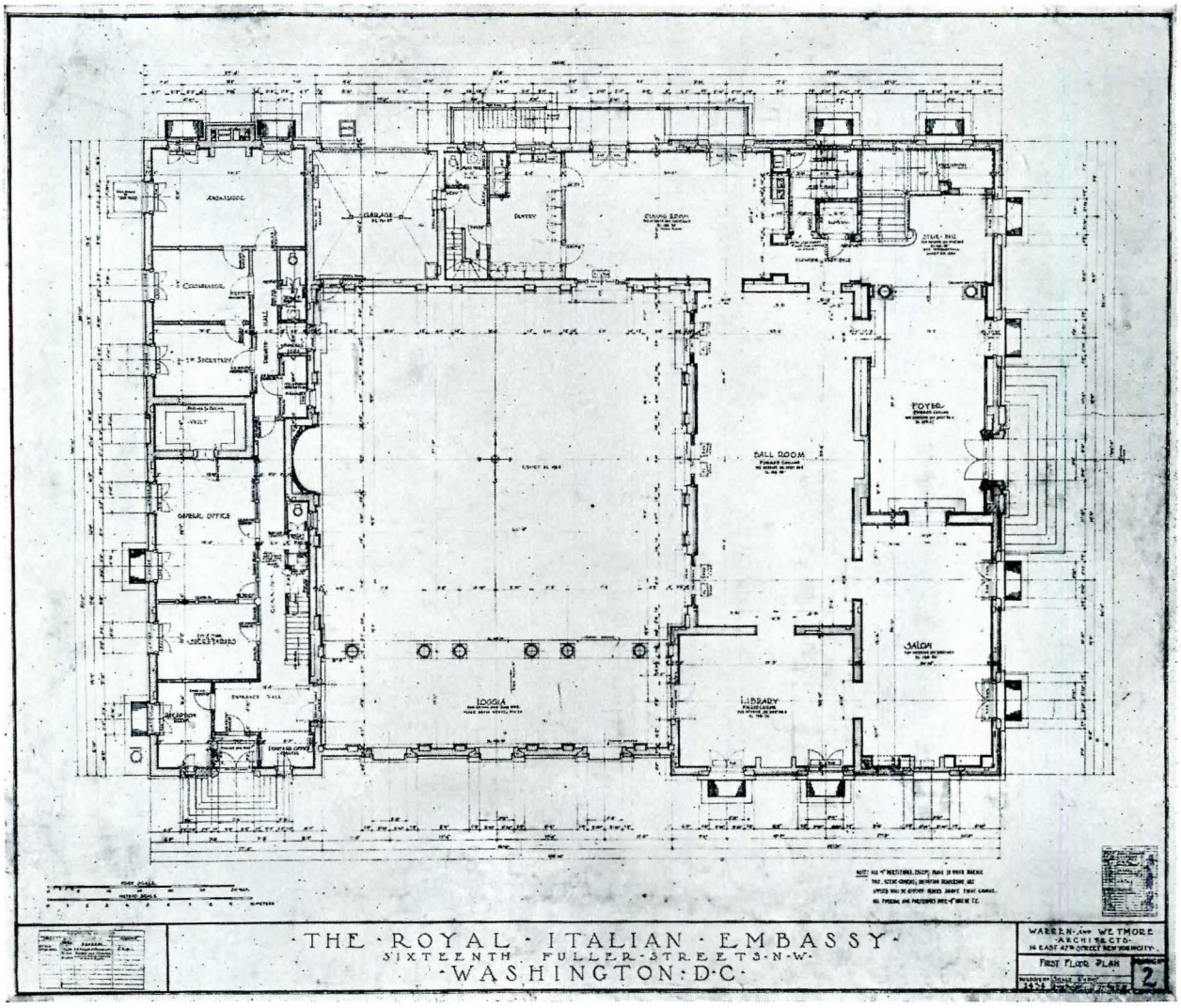
Preliminary Drawing, Second Floor Plan over the Chancellery and Garage—
The Royal Italian Embassy, Washington, D. C.
Warren & Wetmore, Architects.



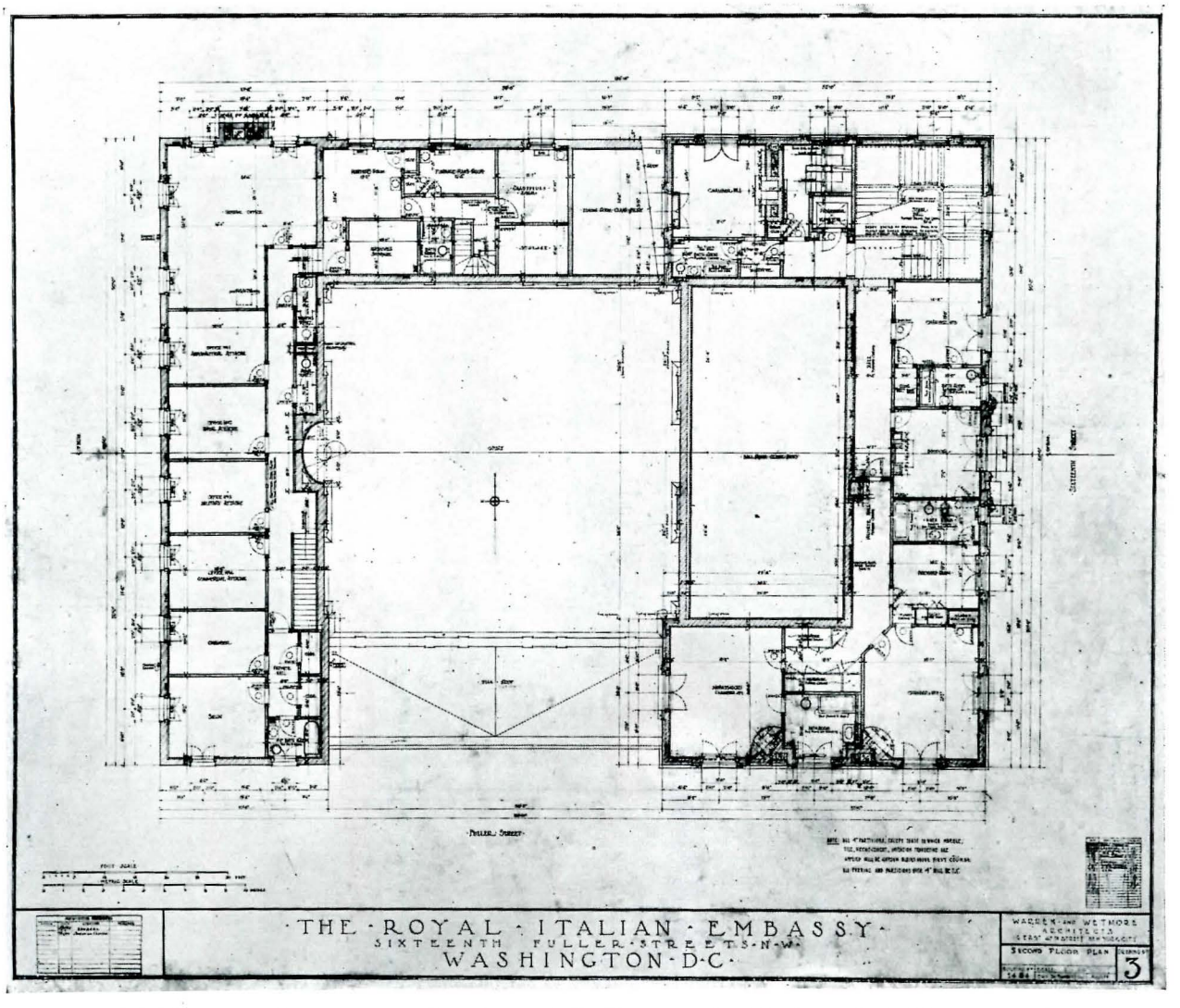
Working Drawing, Main Elevation—The Royal Italian Embassy, Washington, D. C.
Warren & Wetmore, Architects.



Working Drawing Details of Main Elevation—The Royal Italian Embassy, Washington, D. C. Warren & Wetmore, Architects.



Working Drawing, First Floor Plan—The Royal Italian Embassy, Washington, D. C. Warren & Wetmore, Architects.



Working Drawing, Second Floor Plan—The Royal Italian Embassy, Washington, D. C. Warren & Wetmore, Architects.

ARCHITECTS

TRANSMITTAL OF DRAWINGS, PRINTS, SPECIFICATIONS, ETC.

BUILDING _____ DATE _____

TO (NAME) _____

(ADDRESS) _____

DEAR SIR:

WE ARE SENDING YOU THIS DATE THE FOLLOWING { PRINTS / DRAWINGS / SHOP DRAWINGS / SAMPLES

* FILE NO.
B. P. ORDER

SUBMITTED BY _____

DWG. NO.	COPIES EACH	DWG. NO.	COPIES EACH	DWG. NO.	COPIES EACH

AND THE FOLLOWING SPECIFICATIONS:

SUB-DIVISION	ADDENDA	NO. OF SETS	SUB-DIVISION	ADDENDA	NO. OF SETS

SENT YOU FOR THE FOLLOWING REASONS:

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SENT BY { ARCHITECT'S MESSG'R / RECEIVER'S MESS'GR / BLUE PRINTER / EXPRESS / MAIL

YOURS TRULY,

_____

PER: _____

Printed Form for Transmittal of Drawings, Prints, Specifications, etc.

(*Continued from Page* 43)

are essential but nothing is gained for the client by producing elaborate drawings of the "engraving" type and often excess zeal in drafting will tend to increase the estimates of cost submitted by contractors. It certainly increases the architect's drafting cost and the length of time required to complete the drawings. This last item is an important factor where the Owner has heavy carrying charges to consider as part of his financing.

The drawings for the Royal Italian Embassy at Washington, D. C., which are reproduced herewith, illustrate the development from preliminary drawings through to finished details. In this particular building, however, it was deemed advisable to make the working drawings of the elevations complete in repetition of detail, ornament and window sash, etc., on account of their being submitted to a foreign government for approval. Ordinarily, much of this repetition could be eliminated and covered by notes, such as "Continue all ornament", "Repeat sash and frame as at A", etc.

Much time can be saved by furnishing the draftsman with details or drawings from other jobs covering similar problems of construction in arrangement for his guidance and information and there is no necessity to build up drawings independently for each job. In this way draftsmen of lesser experience can be utilized for some of the incidental detailing, such as windows, doors and interior trim, except, of course, where special study is required to meet special conditions.

When revisions are contemplated in the working drawings after the building contract is let, it is inadvisable to make these changes on the contract drawings until estimates have been obtained and approved. For this purpose, the contemplated changes should first be shown on "change sheets" or "Change Records."

These drawings, if made directly from the contract drawings, showing the change together with enough of adjoining unchanged work to properly locate and explain the proposed revision, can be issued for estimate and so marked and, if approved, can be marked and issued as a "paster" to the contract drawing to all concerned. This procedure definitely identifies the change and forms a permanent contract record. It also reduces the expense of blue printing as it is not necessary to reissue prints of the entire drawing affected by the change.

As soon as a Change Record is issued as a contract drawing, the original contract drawing should be revised. This work can be done by a junior draftsman as it is a matter of erasing on the contract drawing and tracing from the Change Record.

The contract drawing is then marked as "Revised August 1st, 1925, Change Record No. 1" and the revision is thereby definitely located and identified. The usual notation put on revised drawings such as "Revised August 1, 1925, stair changes" or some similar vague generality is a constant source of dispute and misunderstanding and should not be allowed on jobs of any magnitude.

A standard schedule of lettering will help to produce a more uniform set of drawings; a standard schedule of materials prevents confusion and errors in indication and reduces the possibility of conflict in drawings and specifications; a standard system of numbering the drawings helps in filing drawings in the office and at the job, as it separates the different classifications such as ¼" or ⅛" working drawings, scale details, full size details, and all structural and mechanical engineering drawings.

As to identification of drawings; all preliminary drawings that have any value as a record should be identified by a drawing number, job number and date. For this purpose a "preliminary drawing" stamp is useful. All sketches not sufficiently developed to be classed as a preliminary drawing should be identified with the job number, and if such sketches are to be kept for future record, as, for example, on account of Owner wishing further development of the drawings to be delayed or postponed, then a "sketch" stamp, as illustrated, will identify the sketches and facilitate filing.

The segregating of working drawings and details into group classifications and numbering them according to these classifications simplifies the locating of any drawing during the active progress of the job and also for future reference in connection with a completed job, as by this means it is not necessary to go laboriously through an entire drawing list to find a particular drawing.

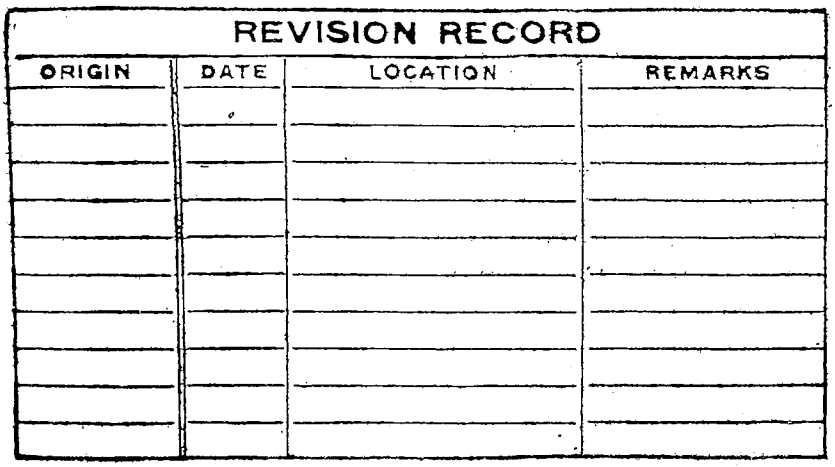
The drawing number of each sheet should be prominent and the "job" number should be less conspicuous. This prevents the possibility of the contractor confusing the drawing number and "job" number in referring to a blue print, especially if the architect uses a rubber stamp impression on each drawing in place of hand lettering as the impression may be faint due to a poor inking of the stamp and it may be difficult to read on the blue print what each of the two numbers represents.

Shop drawings as soon as received should be given a "received" date and a record should be kept showing when received, when returned for correction or returned approved. This record is valuable in case of any claims for extension of time by subcontractors based on delay in receiving approved shop drawings. It also serves as a check in the architect's office to prevent delay in the return of shop drawings.

A record copy of each shop drawing folded to a standard size for filing and stamped on a convenient corner with a form stamp giving general information for ready reference permits the immediate location of a required print in the file. At the completion of the job the final approved shop drawings can be quickly refiled for permanent record and all prior prints destroyed.

The use of a printed form (transmittal form) to accompany all blue prints, etc., issued to contractors, made out in duplicate with the particular information as to drawing numbers, specification sheets, etc. and why these prints are issued, saves writing

(*Continued on Page* 56)



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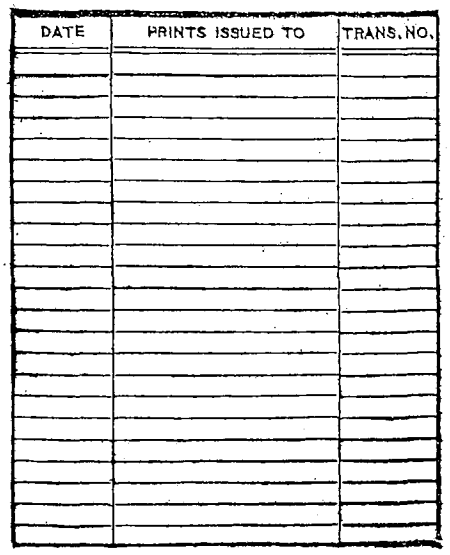

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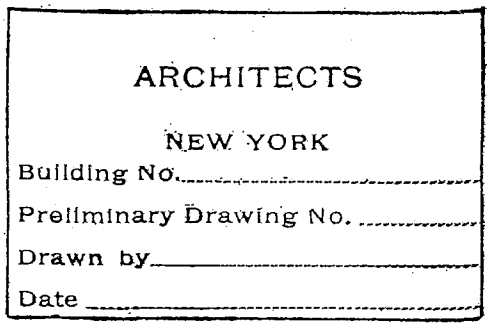

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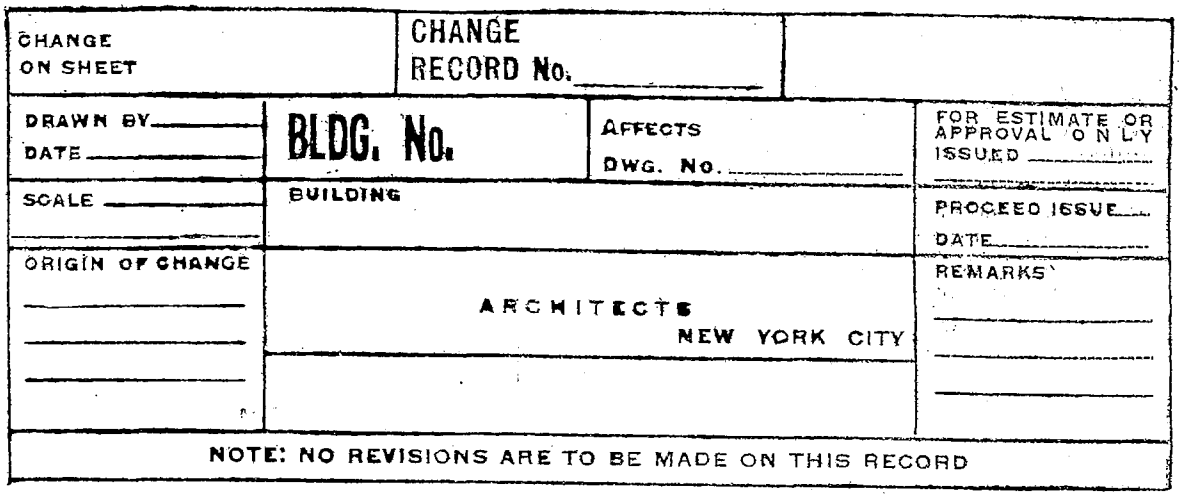

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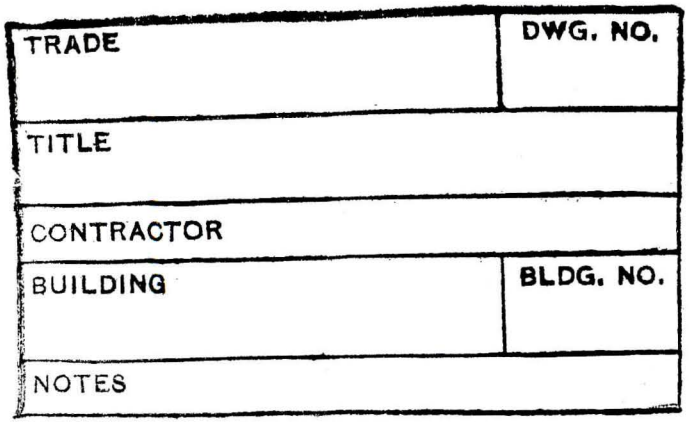
Figure 1, Revision Record; Figure 2, Issue Stamp; Figure 3, Sketch Stamp; Figure 4, Preliminary Drawing Stamp; Figure 5, Change Record.



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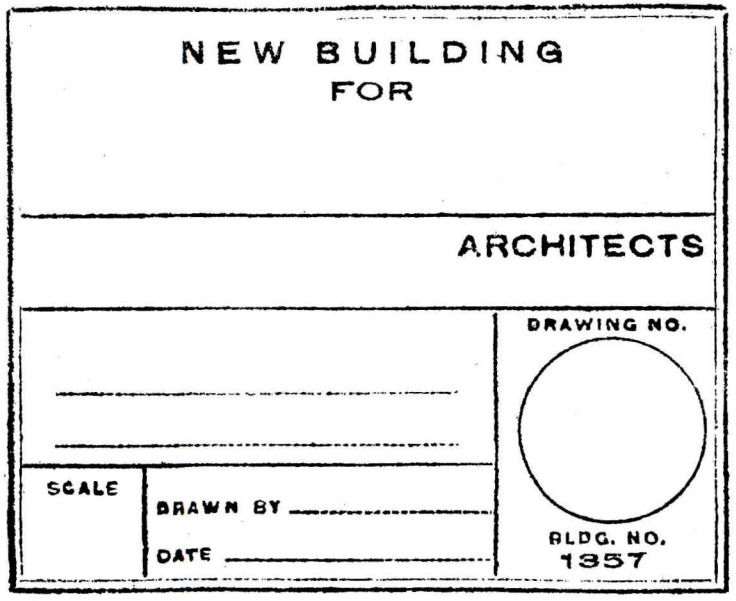

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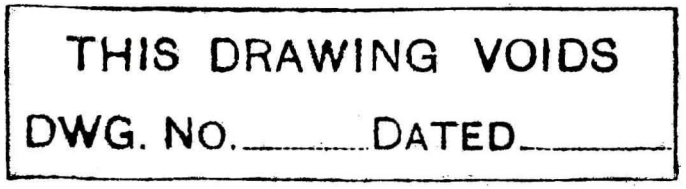

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Figure 6, Shop Drawing Stamp; Figure 7, Job Stamp; Figures 8, 9 and 10, Stamps the use of which is self evident.

(*Continued from Page* 53)

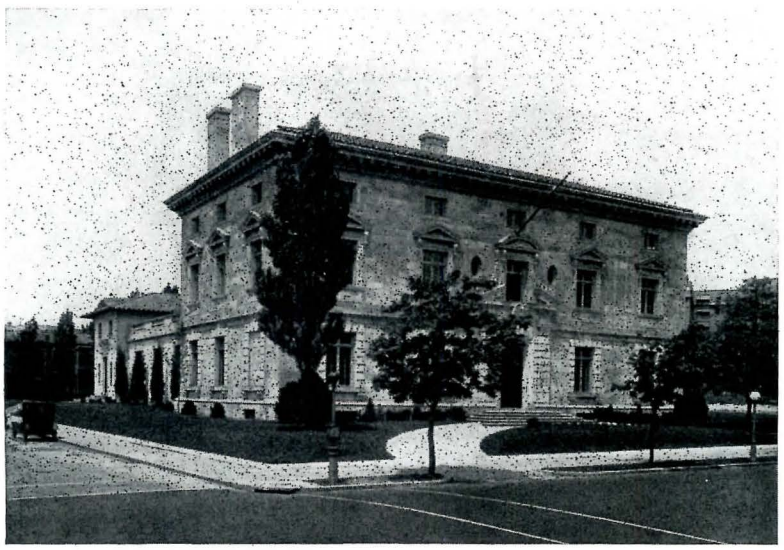
letters and the carbon copy duplicate kept in a special file for handy reference in the drafting room is a record of what has been issued and the date of issue.

Stamping each print with the date it is printed is a safeguard against the use of obsolete prints, especially when reference is being made to any drawing in telephone conversations.

A notation on the original tracing, filled in each time it is issued for printing, stating to whom the prints are to be sent and the date of such issue reduces discussion at a later date as to the issue of such prints, although it is not, of course, definite proof of prints having been received, and more than compensates for the small amount of time involved in making the notations. For this it is convenient to apply an issue stamp to each tracing when made and to enter in ink on the tracing the name of the firm or person to whom prints are issued each time before the tracing is sent to the printer.

A proper filing system for all drawings and the employment of a competent person, with assistants if necessary, to keep it in proper working order, is a necessity that increases with the volume of work being handled in the office. This applies not only to active jobs, but also to completed ones and permits obtaining useful data from other jobs that would otherwise have to be worked out anew for each building. Such a filing system, if worked to full advantage, will more than pay for itself in the reduction of cost of production and in time saved.

These are a few of the essentials in drafting room practice, and they apply in general to all offices—large and small. The degree to which they are developed depends on the size of the office and the amount of work being handled. These principles apply, of course, only to the mechanical means of producing the work. This article is not intended to enter into the question of office morale which must be maintained at a high level otherwise the whole production in the drafting room will suffer both materially and aesthetically.

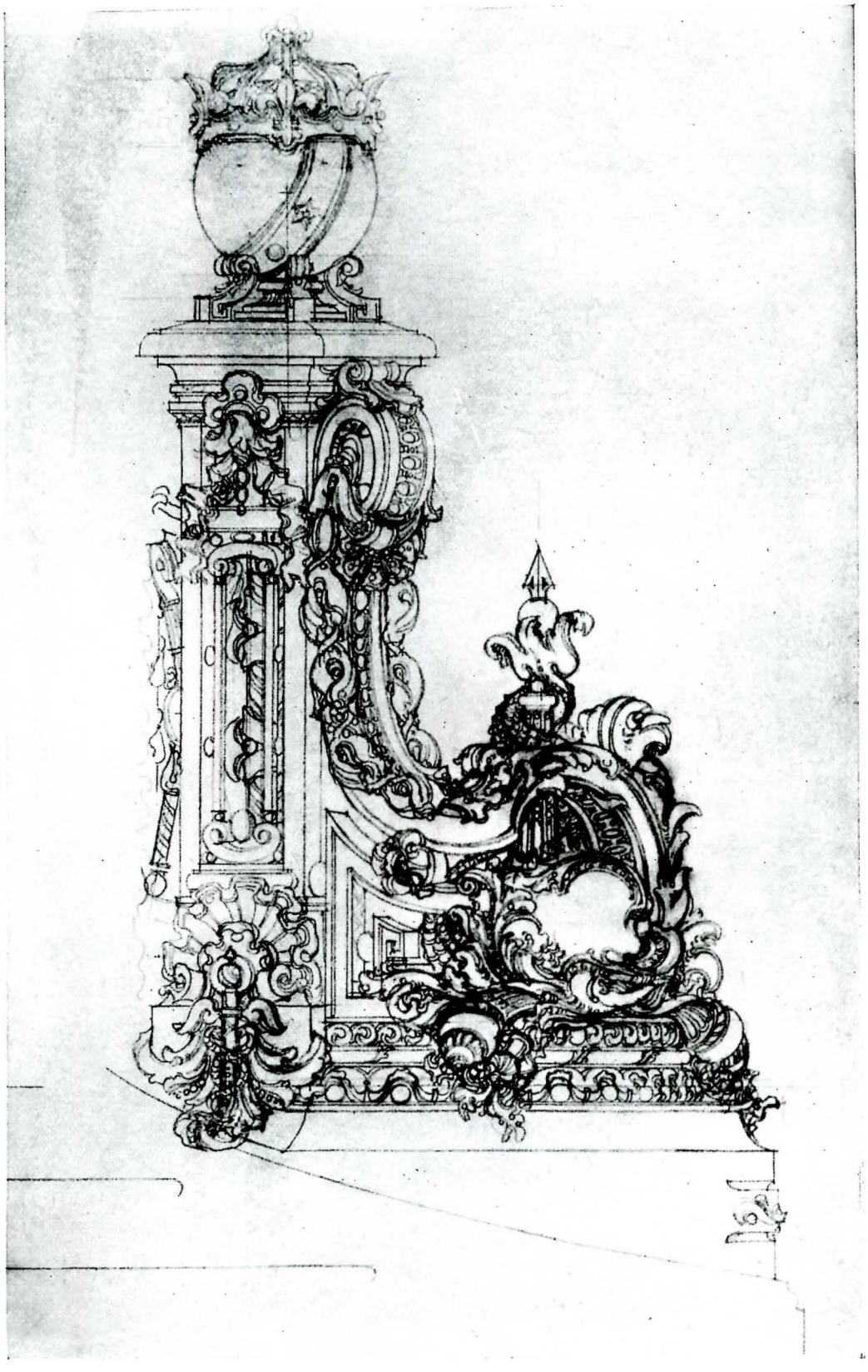


The Royal Italian Embassy, Washington, D. C.
Warren & Wetmore, Architects.

DRAWING BY SAMUEL V. CHAMBERLAIN

THE CHURCH, L'ISLE-sur-SORGUE, FRANCE.

On the other side of this sheet is reproduced a delightful drawing from the collection which Samuel V. Chamberlain recently brought back with him as a result of a European trip. There is an admirable quality in the pencil work that gives this drawing value in addition to that which attaches to it as a good presentation of an interesting architectural subject. Through the courtesy of Mr. Chamberlain we shall present other of his sketches in succeeding issues.



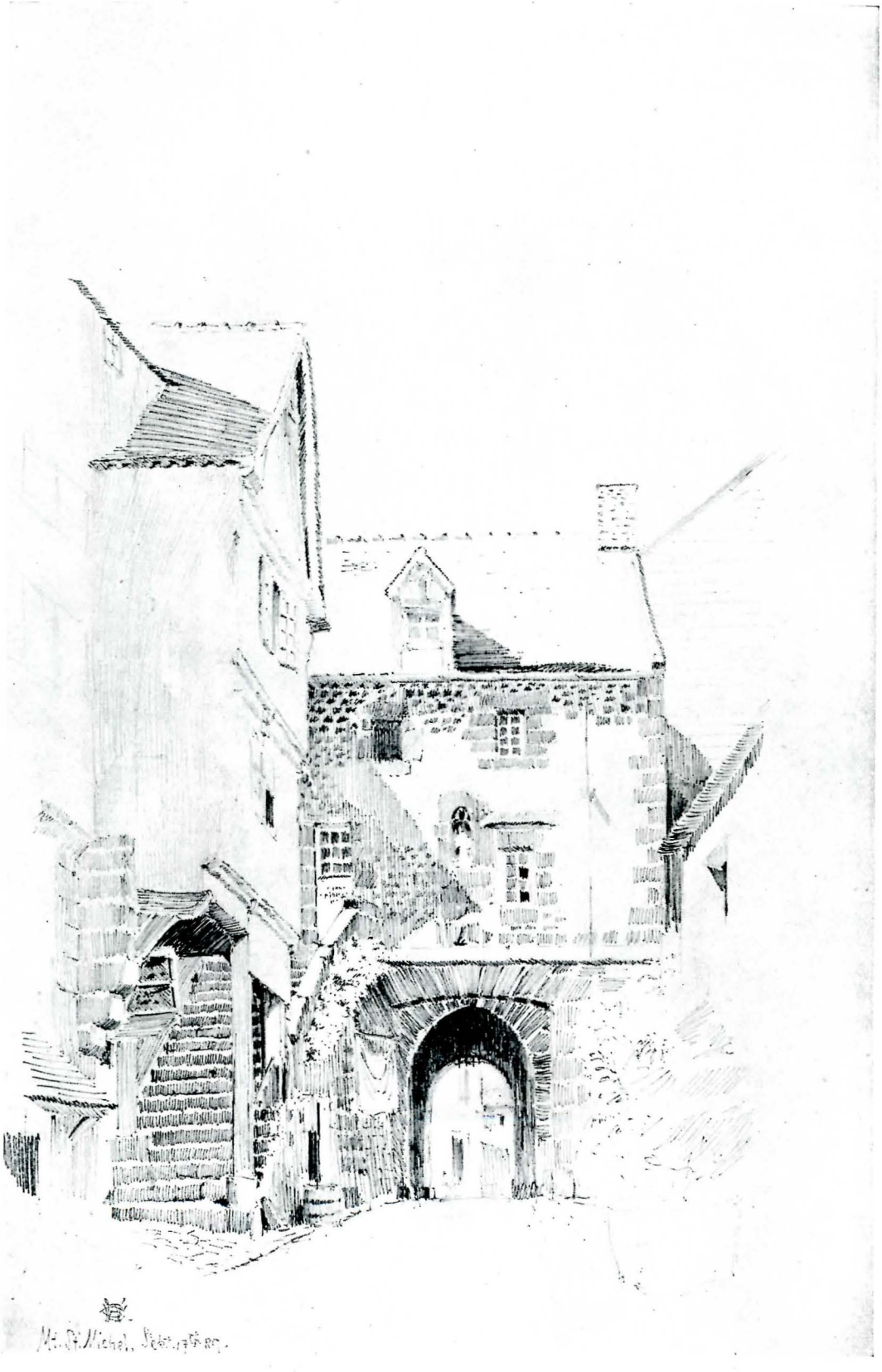
DRAWING BY EDWARD H. BENNETT

STAIRWAY, SKETCH OF NEWEL. CONCOURS GODEBOEUF, ECOLE des BEAUX ARTS.

A masterly study of detail by Edward H. Bennett for a design entered by him in the Concours Godeboeuf at the Ecole des Beaux Arts in Paris is shown on the other side of this sheet. The freedom and expressiveness of the pencil work is worthy of note. The architectural forms are drawn in a way that shows the possession of a rich store of architectural knowledge by the designer and a remarkable ability to visualize his design. Other drawings by Mr. Bennett can be found in the August issue in the article Master Draftsmen, XIV, Edward Bennett.

ETCHING BY EMIL FUCHS.

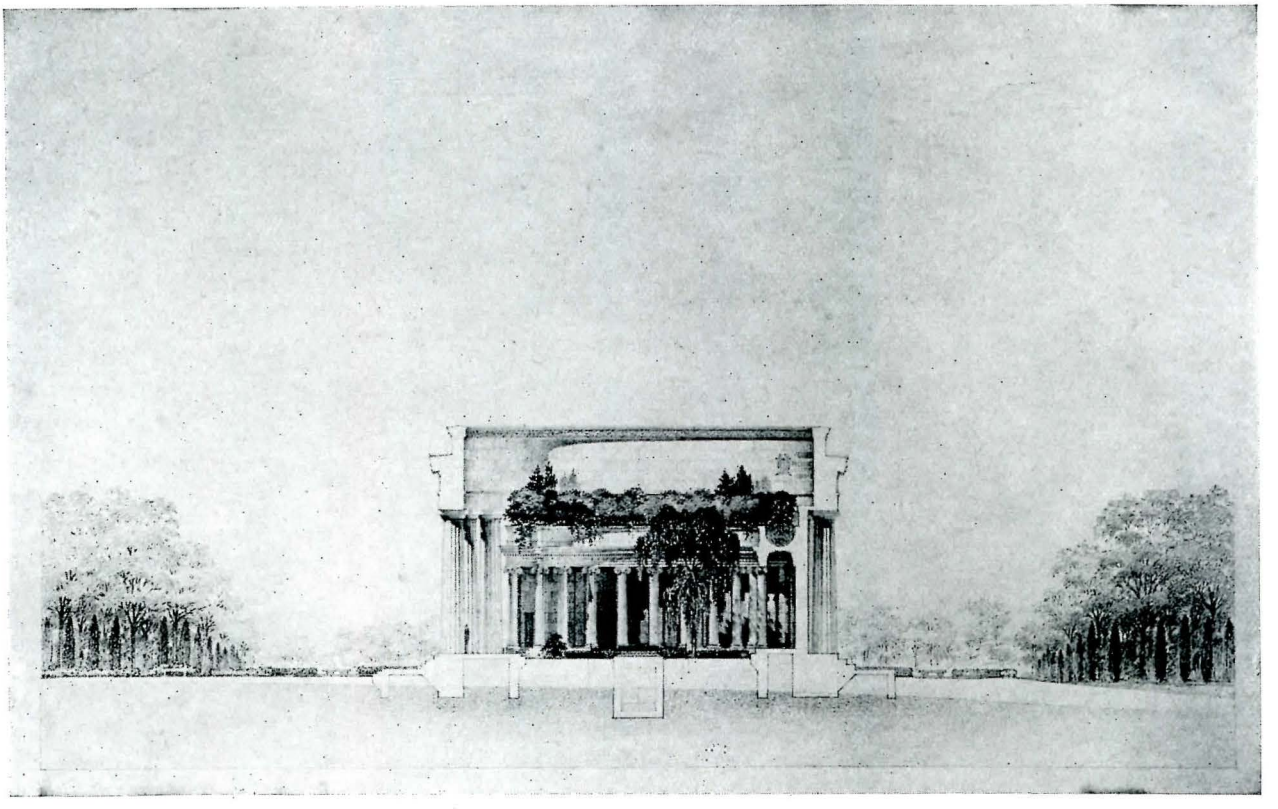
An extremely fine life study is the etching by Emil Fuchs reproduced on the other side of this sheet. The way in which the figure has been expressed by the use of sensitively drawn outlines almost exclusively is deserving of careful study. These outlines suggest the character of the surfaces they bound, a most difficult thing to accomplish.



DRAWING BY WALTER B. CHAMBERS

MT. ST. MICHEL.

A quaint bit of Mt. St. Michel is well rendered in the drawing by Walter B. Chambers shown on the other side of this sheet. This drawing was made in 1889 on one of Mr. Chamber's early trips abroad. It shows a delightful study, as well as earnestness—the kind of drawing that it is well for a student to make. Another of Mr. Chamber's sketches of Mt. St. Michel appeared in the previous issue.



Section—The Design Winning the Competition for the Selection of an Architect for the Harding Memorial, Henry Hornbostel and Eric Fisher Wood, Architects.

HENRY HORNBOSTEL AND ERIC FISHER WOOD WIN COMPETITION FOR HARDING MEMORIAL.

THE commission to design the mausoleum to be erected in memory of President Harding, at Marion, Ohio, has been awarded to Henry Hornbostel and Eric Fisher Wood. The Jury of Award met on July 20, at the offices of the professional advisor to the Harding Memorial Association, E. P. Mellon, of New York, to consider the designs submitted by the architects, architectural firms and associated architects who had been invited to take part in this competition, namely: Messrs. Paul Phillippe Cret, of Philadelphia, Pa.; Henry Hornbostel and Eric Fisher Wood of Pittsburgh, Pa.; John Russell Pope, of New York; and Egerton Swartwout of New York. It was the desire of the Executive Committee of the Association that the judgment be made upon the professional and artistic capacity of the author for dealing with this especial problem as regarded from all points of view, including that of cost.

The program called for a memorial to be erected to Warren Gamaliel Harding by The Harding Memorial Association in the form of a mausoleum at Marion, Ohio. An area of ten acres is provided for the memorial but only that part of this lot that in the judgment of the competitor is desirable as a setting need be included in the design. The cost of the mausoleum, and all expenses incidental to the building, was fixed at six hundred thousand dollars. A. D. Taylor, of Cleveland, Ohio, has been designated by the Harding Memorial Association as landscape architect. It is understood that, although the landscape architect is engaged and paid by the owner, his function shall be distinctly subordinated to that of the architect of the mausoleum and that the landscape architect shall cooperate with him in designing the treatment of the site and of the roads leading to it. The drawings called for by the terms of the program were:

A. A general plan showing the mausoleum in block form and the treatment of the approaches at the scale of 1/40 in., rendered.

B. A plan of mausoleum at entrance level or, if desired, showing one-half at that level, the other half at an upper or lower level, at the scale of 1/8 in., not rendered.

C. One main elevation at the scale of 1/8 in., rendered.

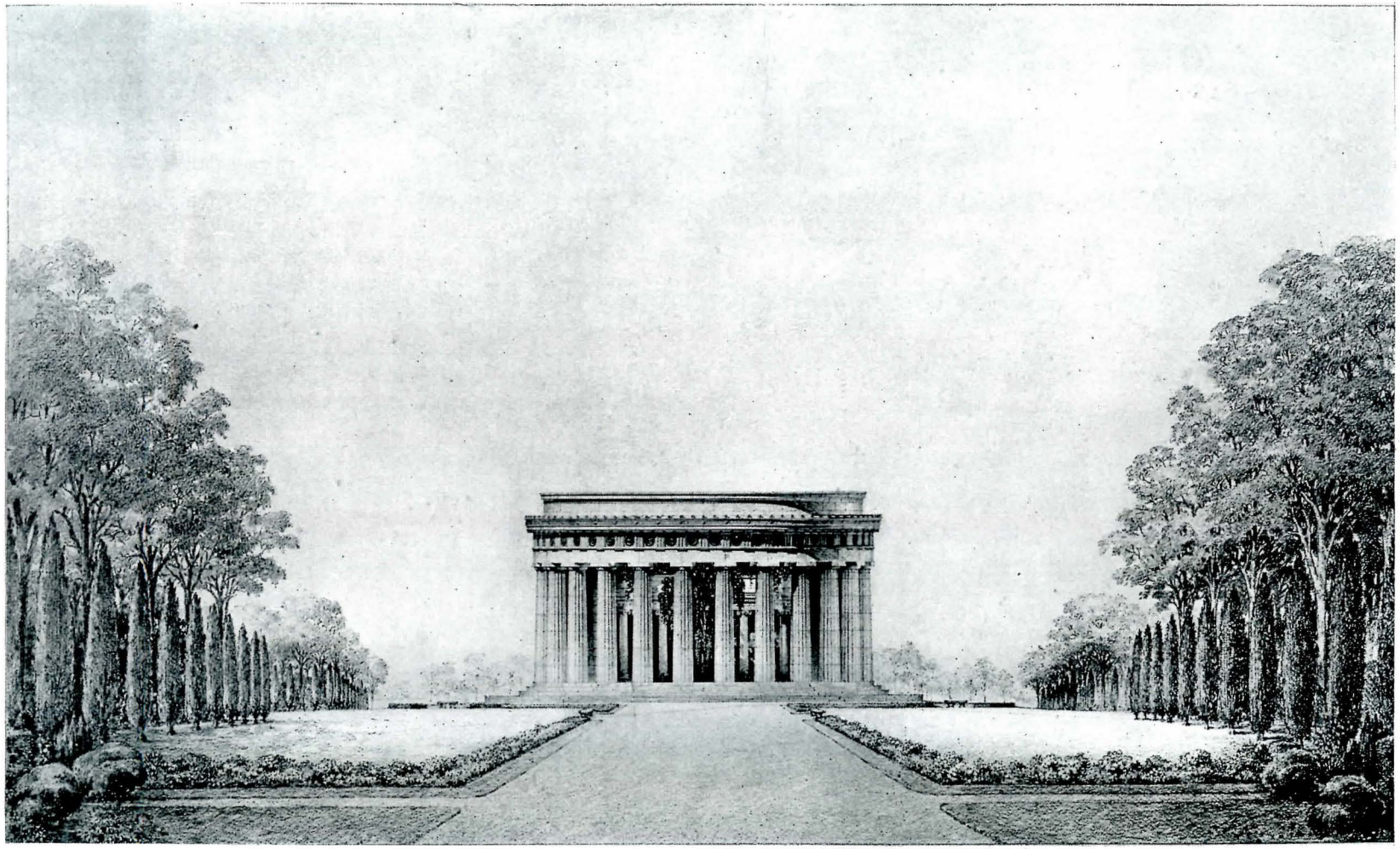
D. Another elevation at 1/8 in., not rendered.

E. A section through the mausoleum at the scale of 1/8 in., rendered.

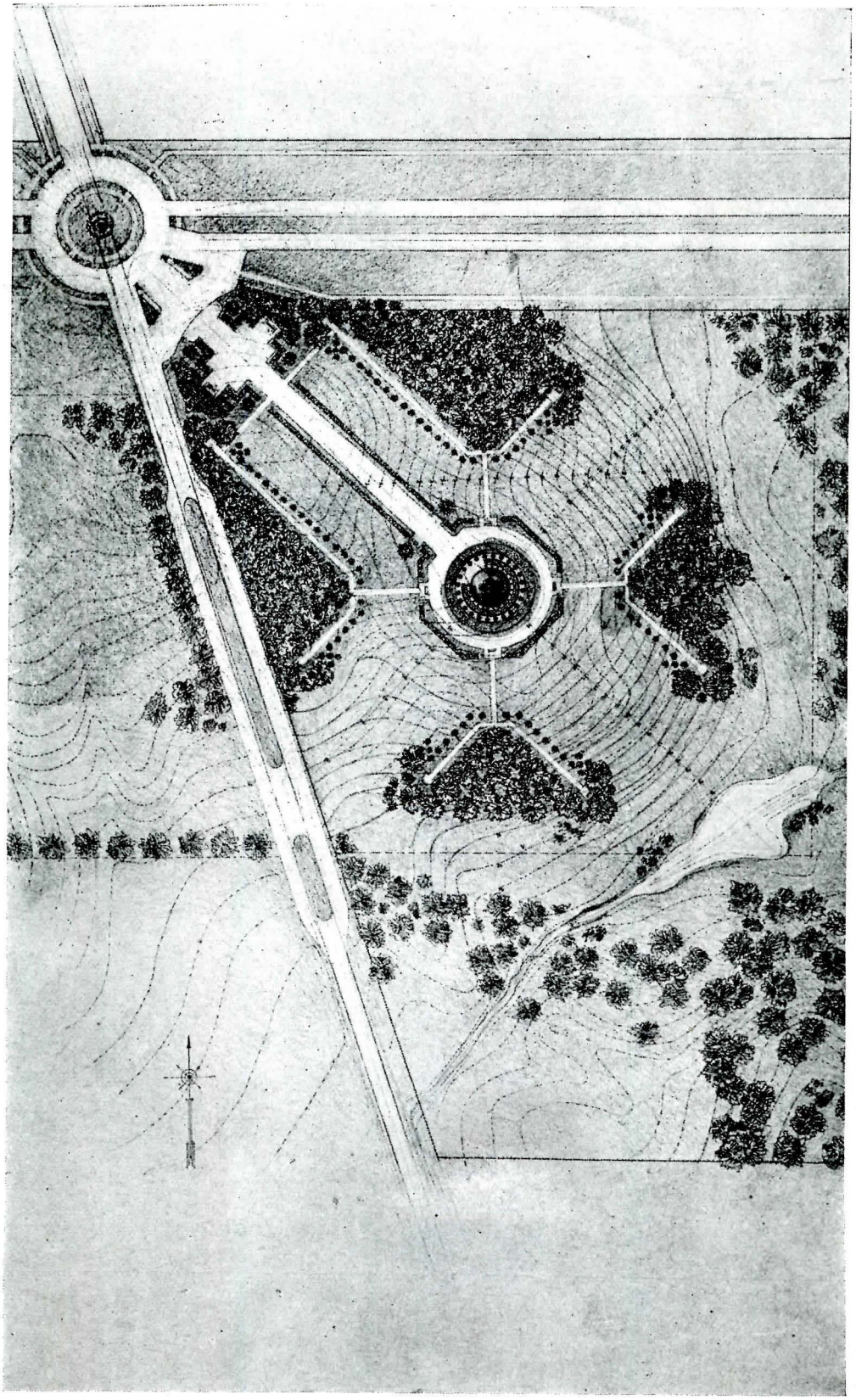
F. A cubage diagram on tracing cloth, agreeing in all respects with the dimensions of the building as shown in the design, and showing these dimensions in figures, with schedules giving the area, height and volume of each part to be included in computation of volume and their total in cubic feet.

The three drawings noted above as rendered to be essentially in monochrome, elevations and sections to show a single human figure 5 ft. 8 in. high.

On pages 65 through 73 we reproduce three of the rendered drawings from the set submitted by each of the competitors in this competition.

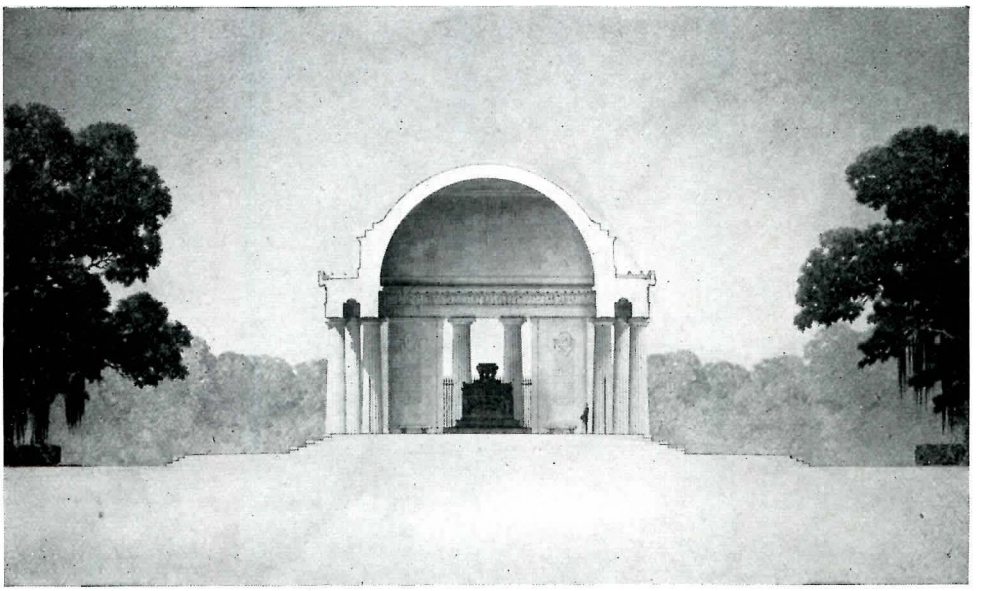


The Design Winning the Competition for the Selection of an Architect for the Harding Memorial, Henry Hornbostel and Eric Fisher Wood, Architects.



Plot Plan—The Design Winning the Competition for the Selection of an Architect for the Harding Memorial, Henry Hornbostel and Eric Fisher Wood, Architects.

Design Submitted by John Russell Pope in the Competition for the Selection of an Architect for the Harding Memorial.



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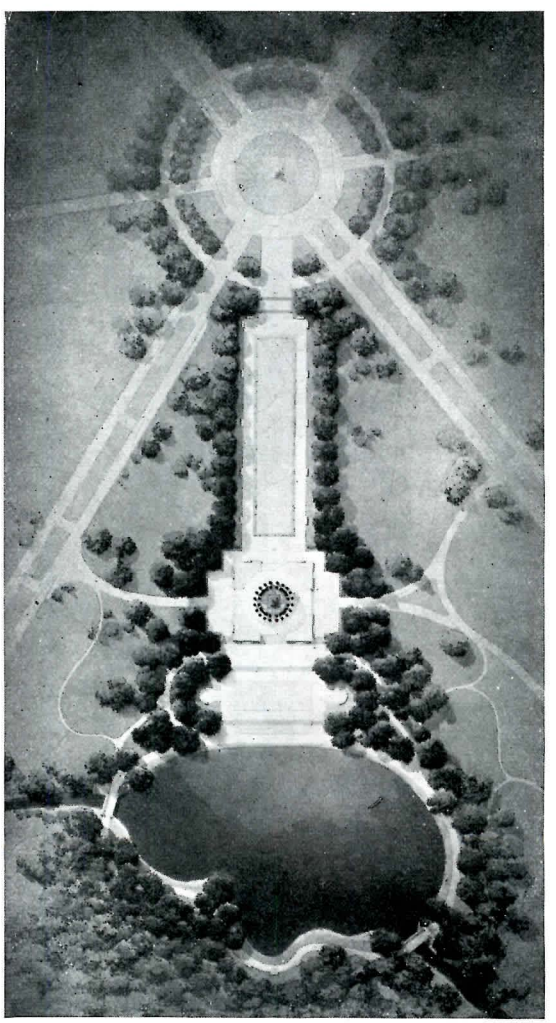
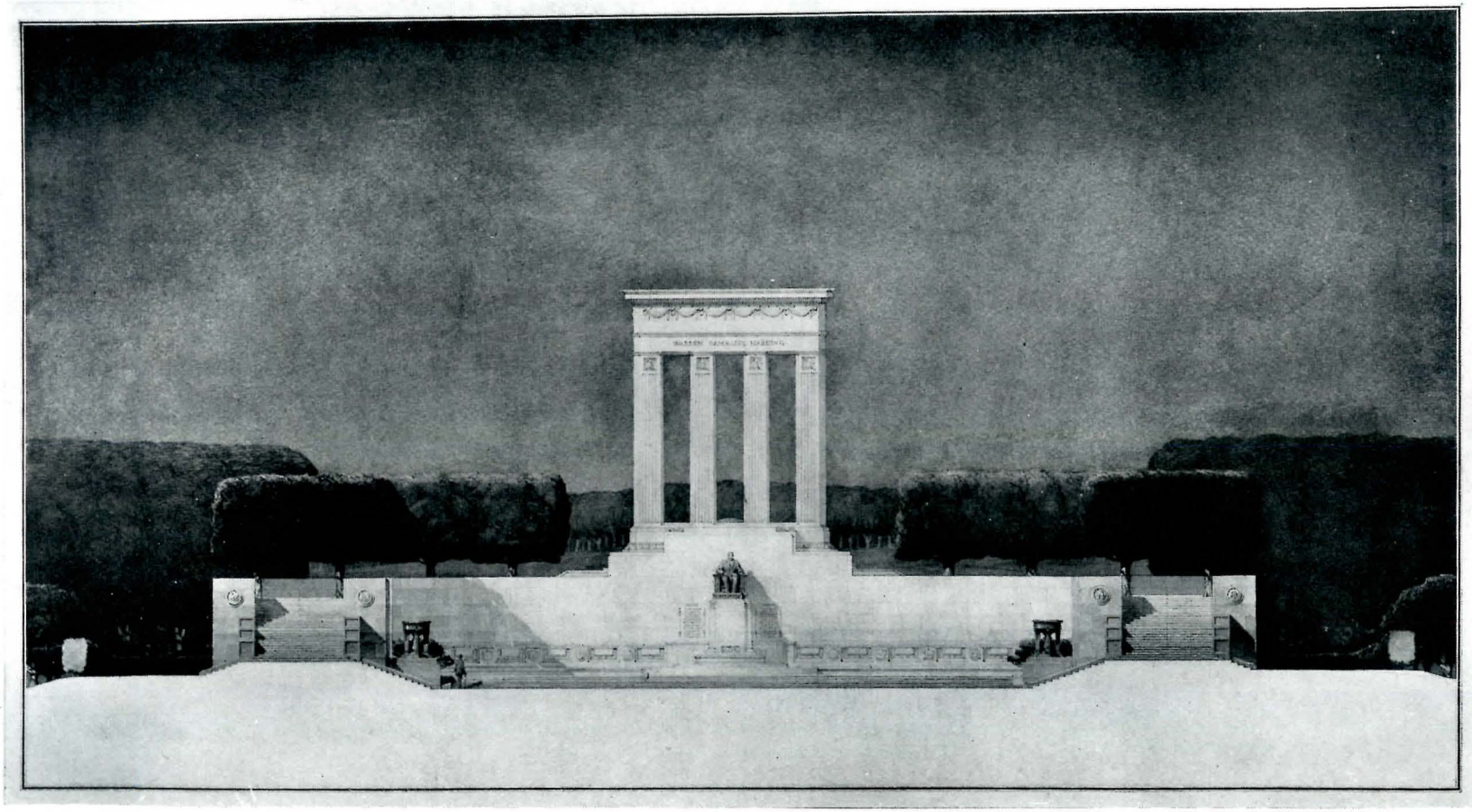
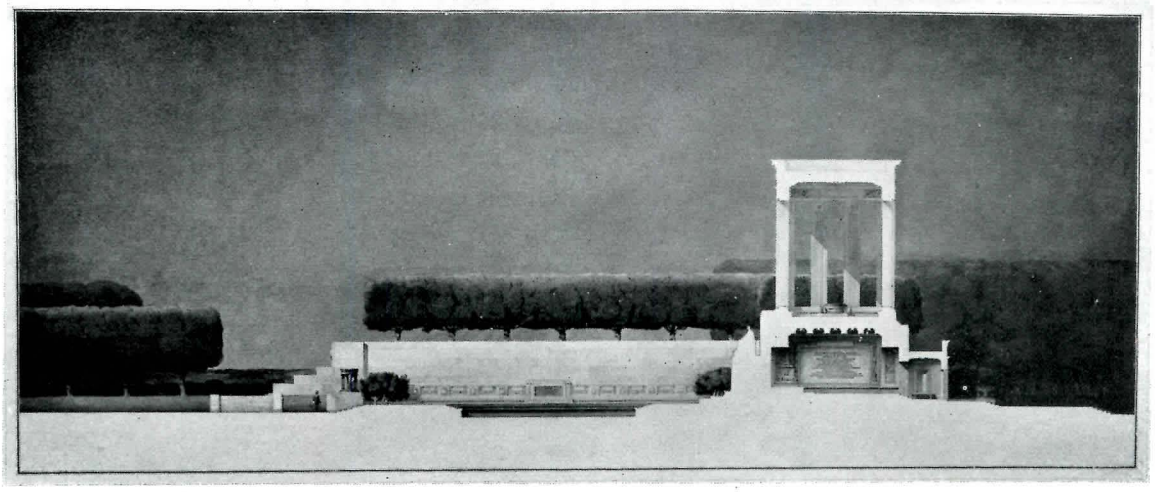


Plot Plan.

Design Submitted by John Russell Pope in the Competition for the Selection of an Architect for the Harding Memorial.



Design Submitted by Paul P. Cret in the Competition for the Selection of an Architect for the Harding Memorial.



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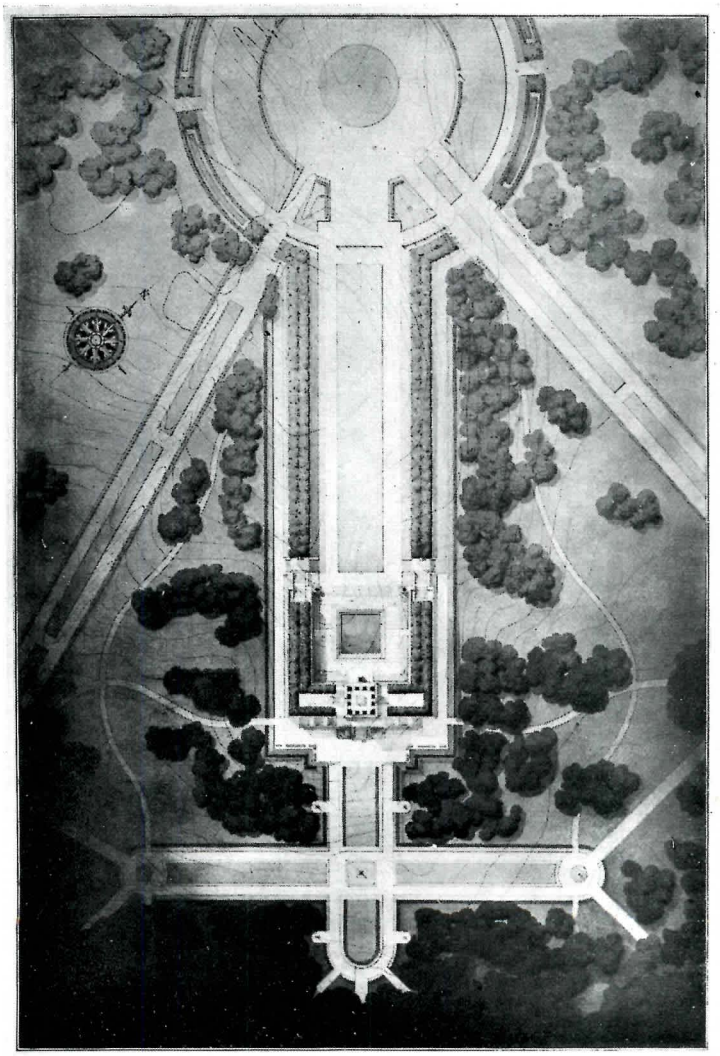
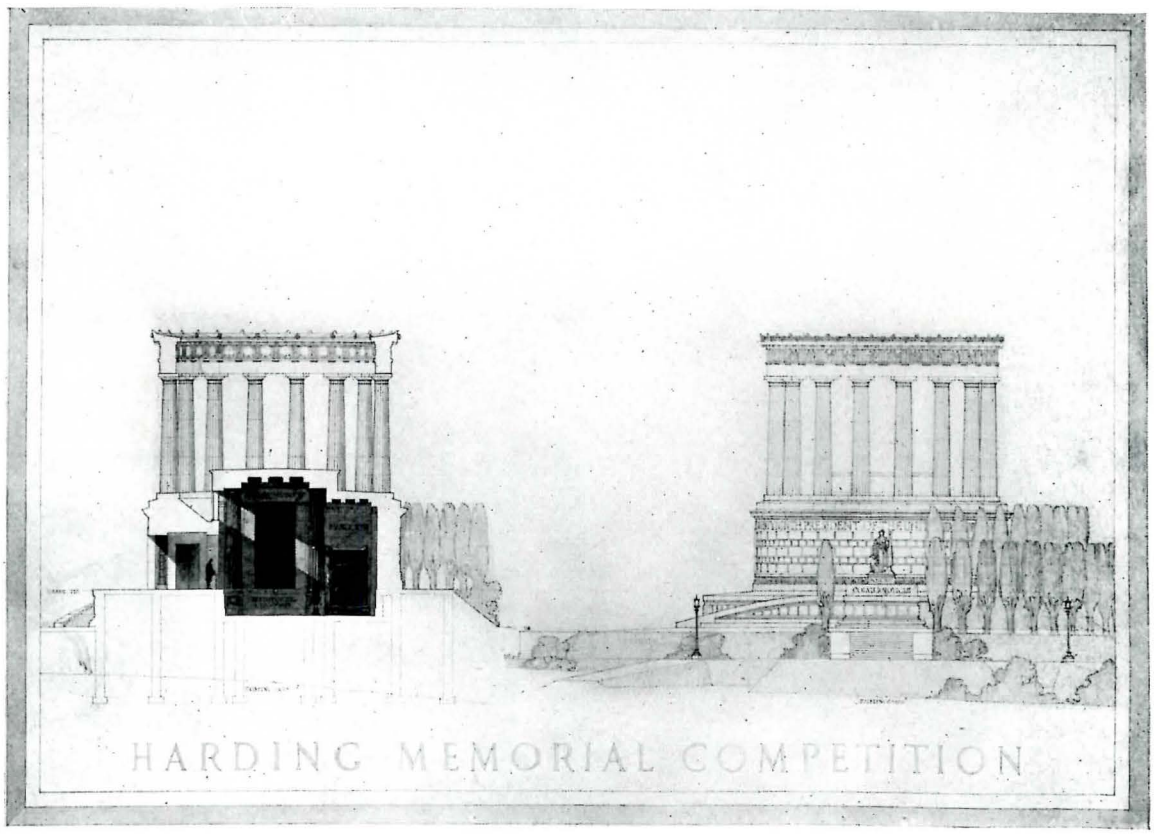


Plot Plan.

Design Submitted by Paul P. Cret in the Competition for the Selection of an Architect for the Harding Memorial.

Design Submitted by Egerton Swartwout in the Competition for the Selection of an Architect for the Harding Memorial.



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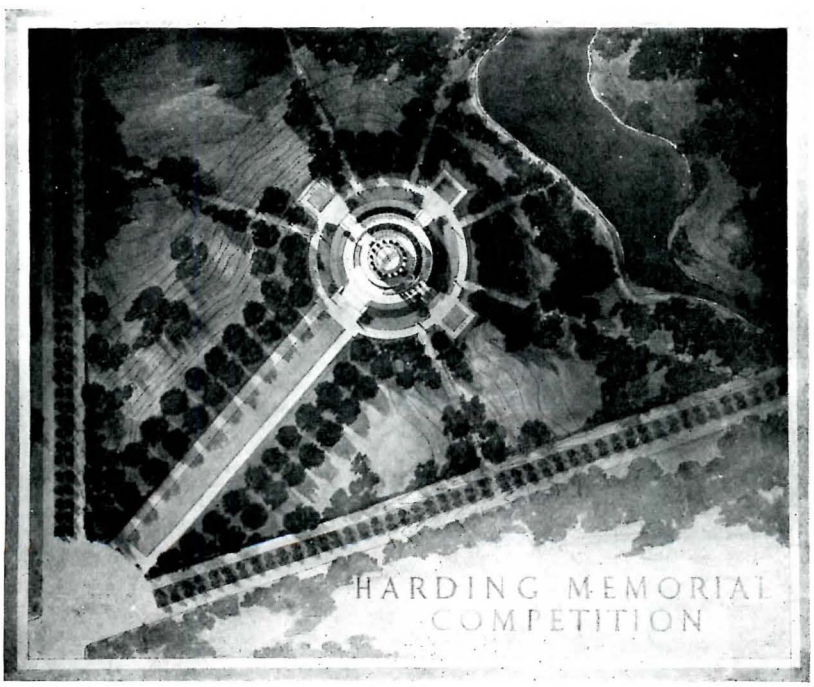

Plot Plan.

Design Submitted by Egerton Swartwout in the Competition for the Selection of an Architect for the Harding Memorial.

Figure 1. Drawing by Emanuel Brune. "Fragments Divers," Cori.

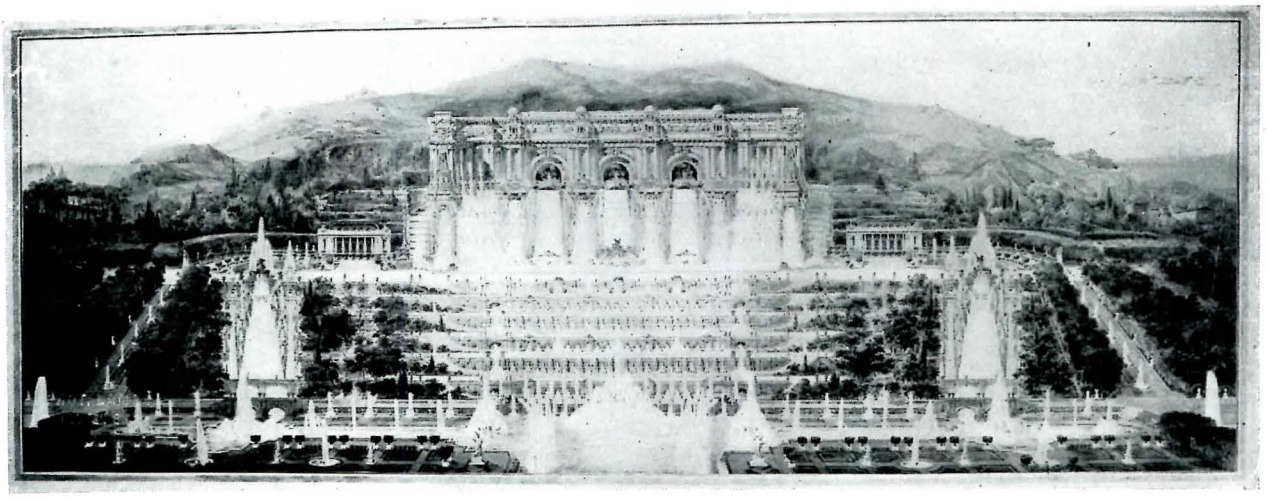

Figure 13. Chateau d'Eau, Grand Prix de Rome Design by Camille Lefèvre.

THE TECHNIQUE OF RENDERING, PART IX

BY FRANCIS S. SWALES

In the serial article of which this is the ninth installment Mr. Swales explains practical methods of rendering. These methods, though based on what may be regarded as standard practice include variants that have been found effective in actual work.—EDITOR.

THE brilliant *piquage* of Mr. Magonigle's drawings of the Kansas City Peace Memorial*, made to present as forcefully as possible the artist's conception of the general treatment of a great monumental group of buildings, brings to attention the strong part that foliage and other naturalistic elements may play in the effective presentation of the ideas and feeling of the designer. The dramatic touch of the artificial lighting of the procession in the foreground of the perspective, the vivid impression of sunlight brought about by the dark points of foliage so placed as to force the white surfaces of the masonry at the base of the elevation; the sharp accentuation of naturalistic points of the foreground, and the architectural lines of the formal clipped trees, which become part of the monumental design that is within the entourage of naturalistic setting, convince the beholder that not alone the architecture but the landscape, sculpture and qualities requisite to the artist-painter are combined in the thoughts and expressiveness of the designer.

The part which foliage may take in the effectiveness of a presentation drawing is a common cause of questions as to advisability. The general theory of teachers of architecture inclines to avoidance of anything naturalistic in combination with the orthographic projectional drawings of architecture. Yet Emanuel Brune, one of the great exponents of that theory and one of the greatest masters of technique himself, resorted to at least suggestions of the combination as in the background of his composition of "Fragments Divers" at Cori (Figure 1), in which the mountain town and suggestion of clouded sky take the part of the back-drop of the stage. But Brune's drawings, while displaying a painter's feeling for lighting and perspective and containing elements of an artist's imagination (as all French restorations of the antique do), are primarily drawings to record facts, or near-facts. The doorway of the Doric Temple (Figure 2), a severe academic study, is relieved of harshness by the naturalistic softening of the shadow of the console at the right and a touch of diffused shade over the left corner creating a sense of space behind the mechanical border framing the drawing. Again in his masterly study of the "Details of the Doric Temple" the glazing of the drawing with strong graded washes of deposing pigment give a naturalistic effect to the texture of the tile roof (Figure 3) and the surfaces of the stonework (Figure 4). The strong settling washes conceal to a great degree the labor showing through the mask of facility. Thus, on the curve of the crown mould of the cornice we can perceive ten parallel washes used to produce the effect of mingling light and shade and the varying degrees of reflected light upon the small horizontal bands in the frieze enable us to know that at least five washes were carried over the lighter parts and nine over the parts in shadow, and all were carefully graded. The small cyma below the crown moulding is ruled off into nine parallel lines and seven separate washes used to produce the lighting effect before the heavy glazing wash, giving to the surface the technique of the water-colorist—the sure touch and right tone with the first brush full—was applied. The study of the Corinthian capital and base (Figure 5) shows prodigious technical work. On the lower torus of the base no less than sixteen bands of diagonal washes can be counted in the shadows above the "white" line spared between the shade and shadow. Only portions of the drawing have been glazed with a softening wash; but

(*Continued on Page* 82)

* *Illustrated in August, 1924.*

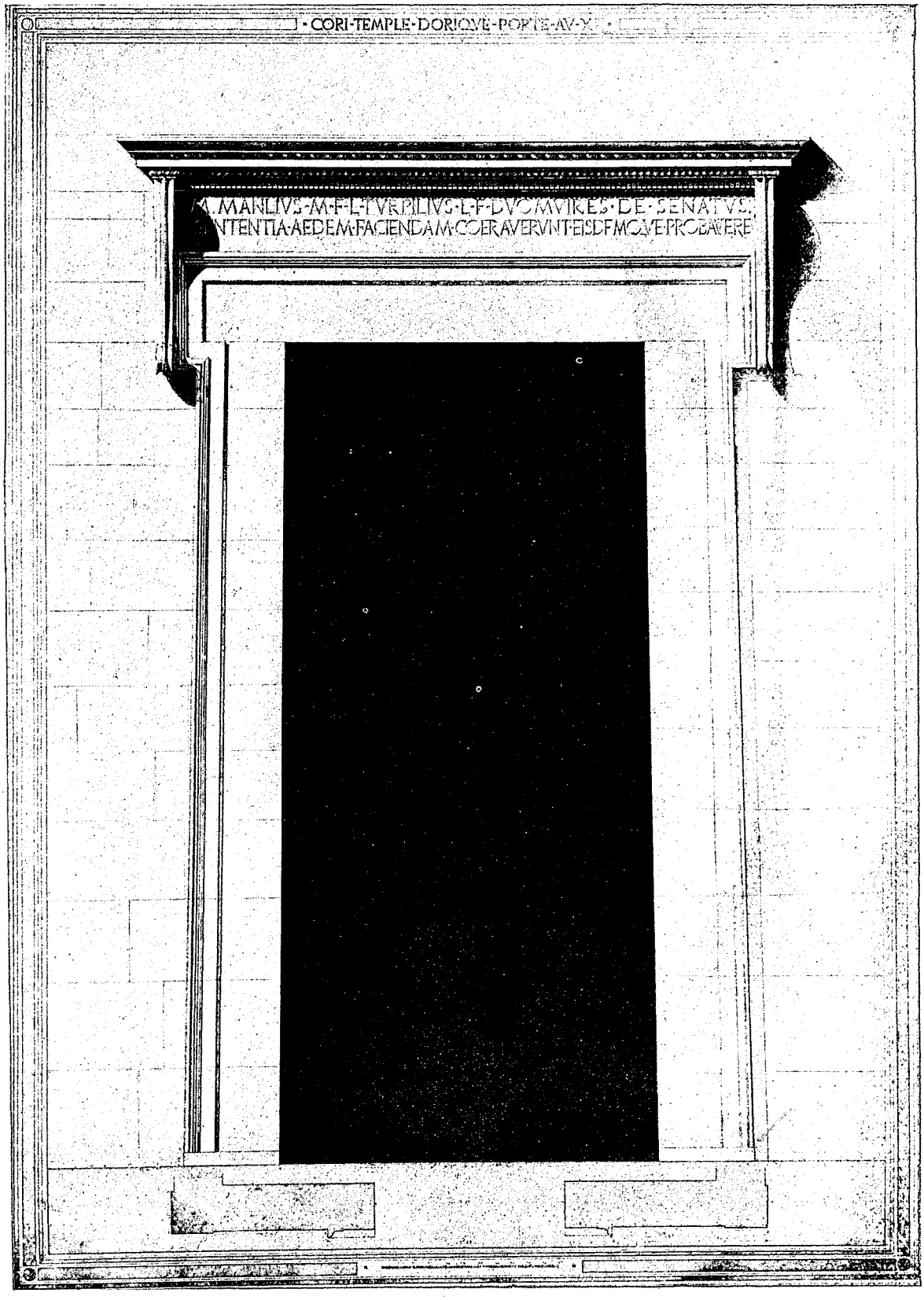

Figure 2. Drawing by Emanuel Brune. Doric Temple, Cori.

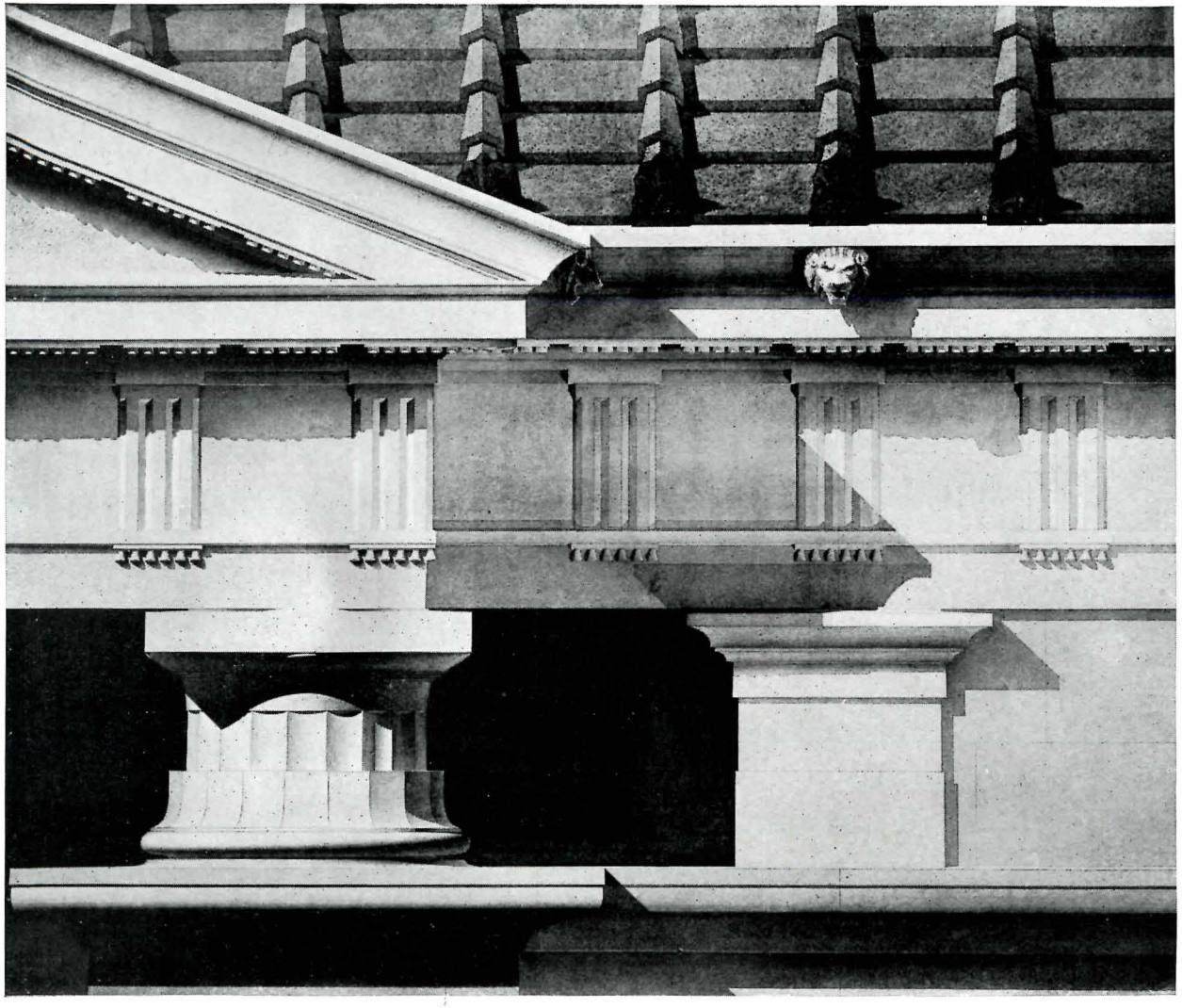

Figure 3. Drawing by Emanuel Brune. Details of Doric Temple, Cori.

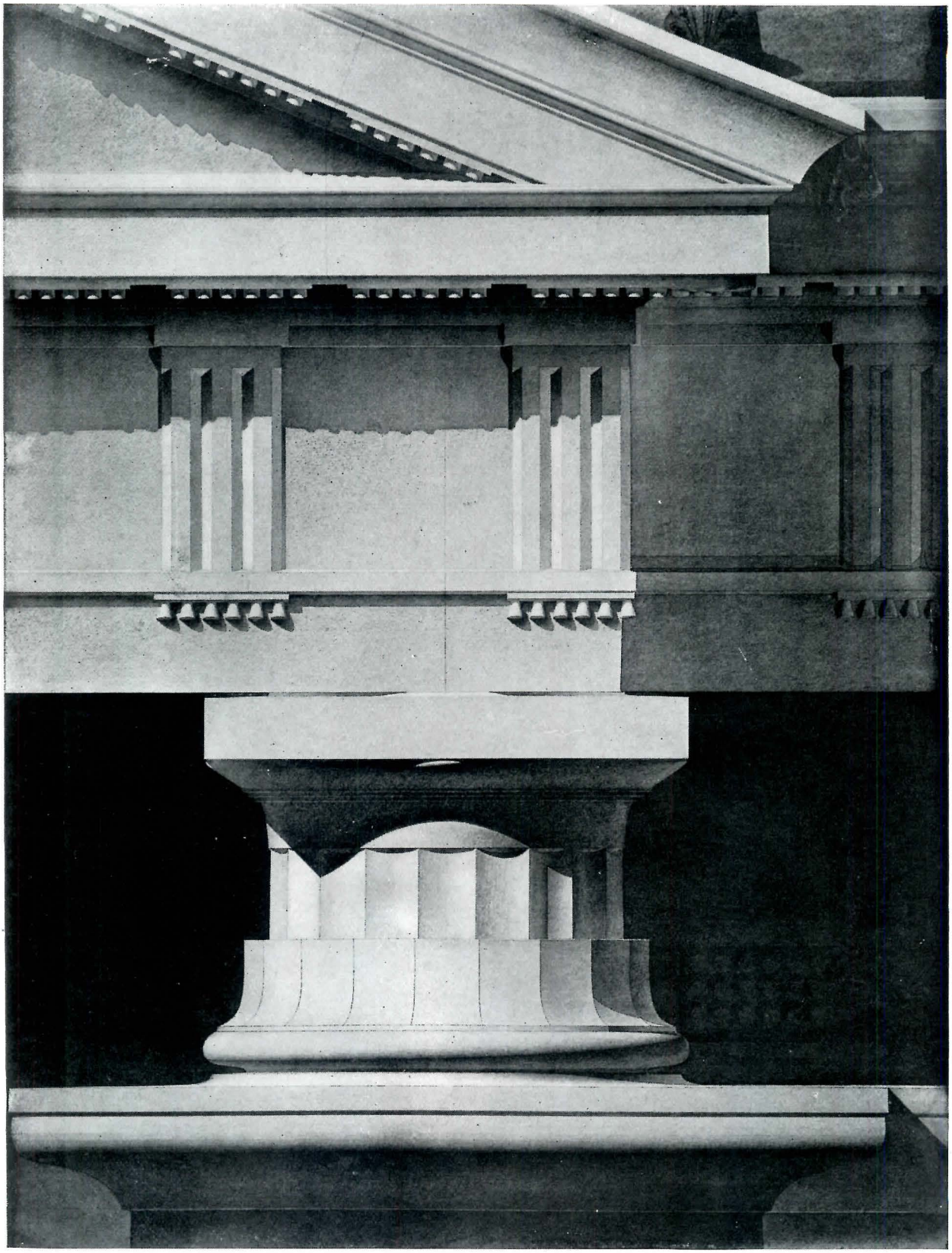

Figure 4. Drawing by Emanuel Brune. Detail of Order, Doric Temple, Cori.

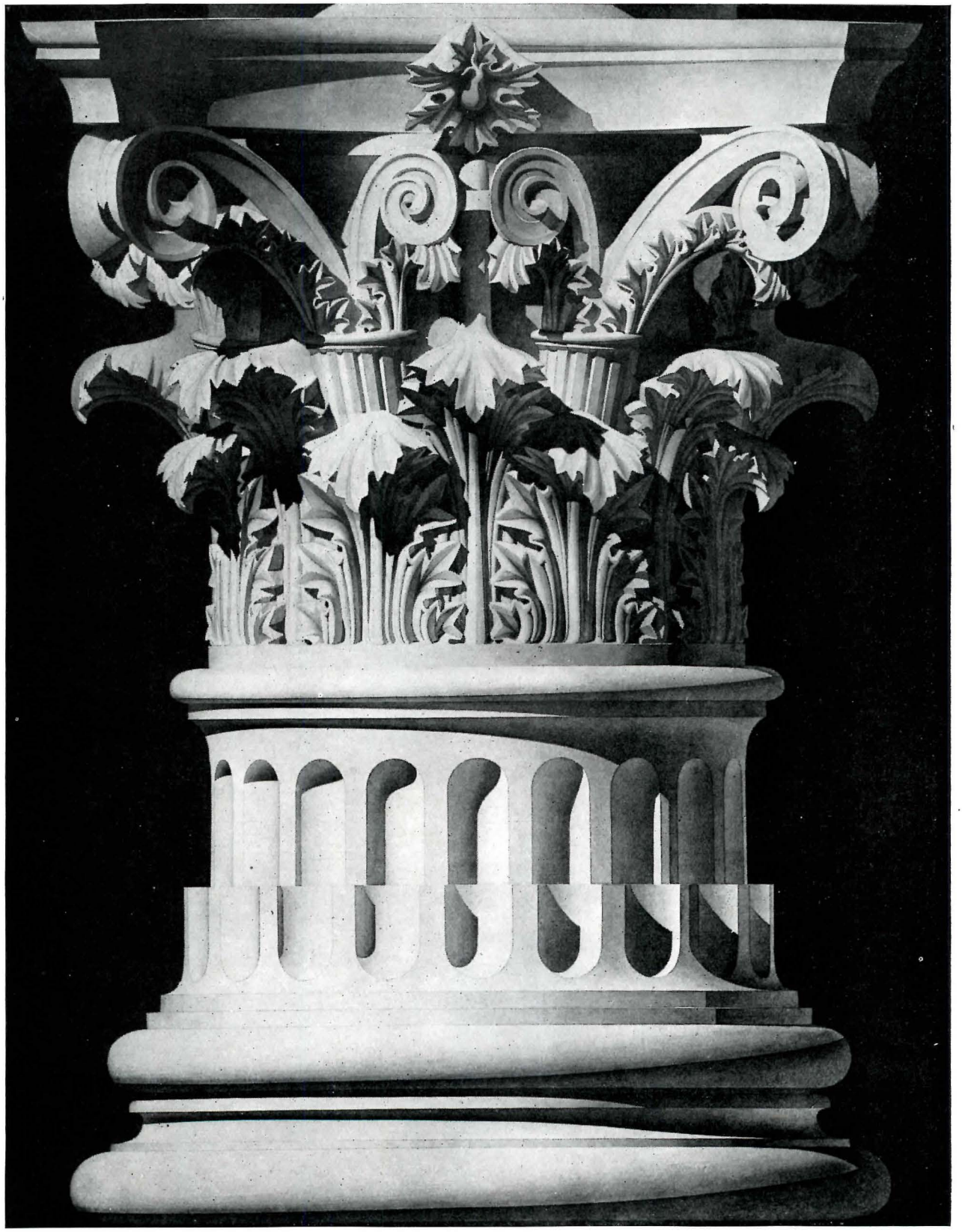

Figure 5. Drawing by Emanuel Brune. Detail, Corinthian Order, Cori.

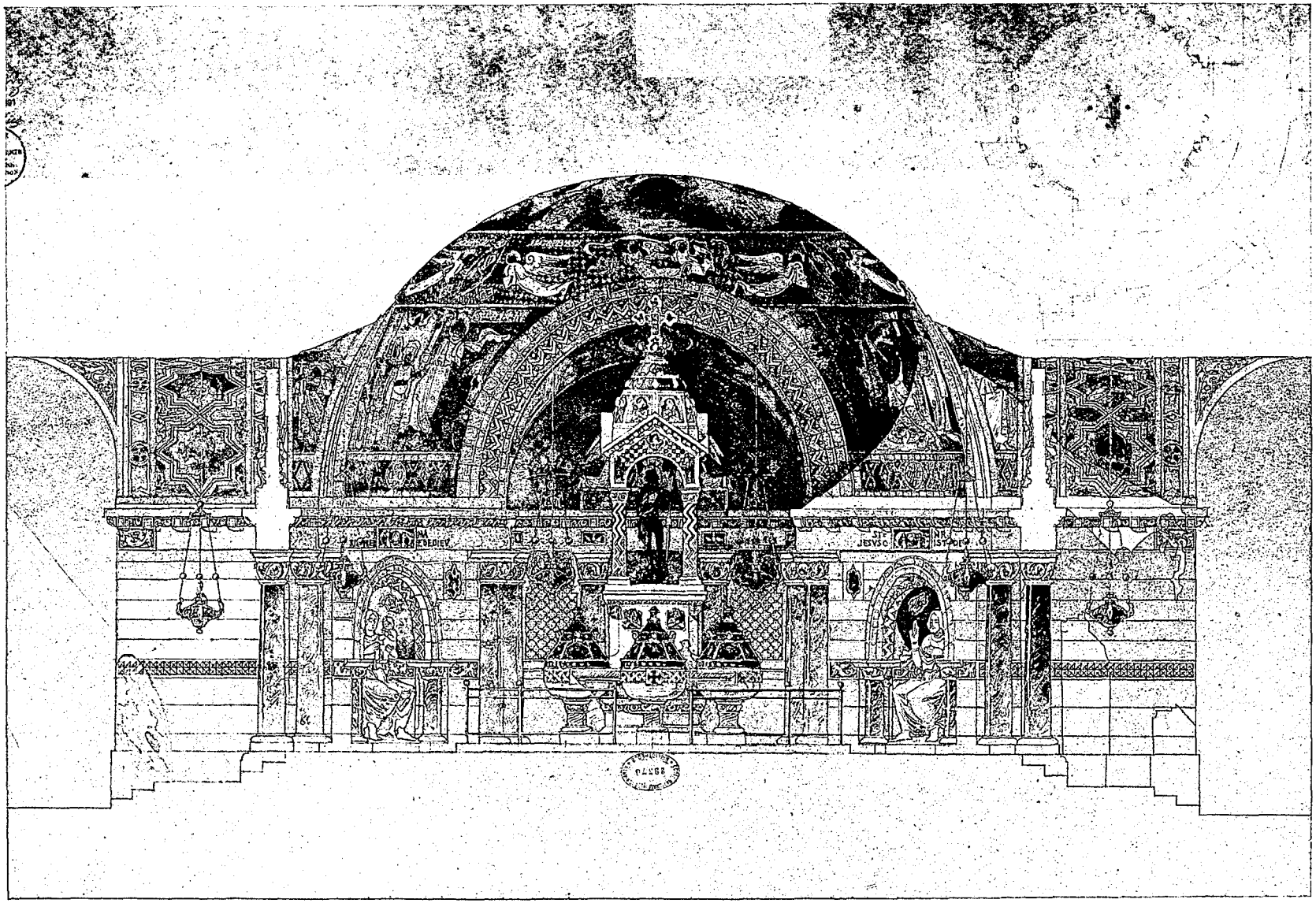

Figure 7. A Baptistry, Rougevin Prize 1891. Design by A. Guilbert.

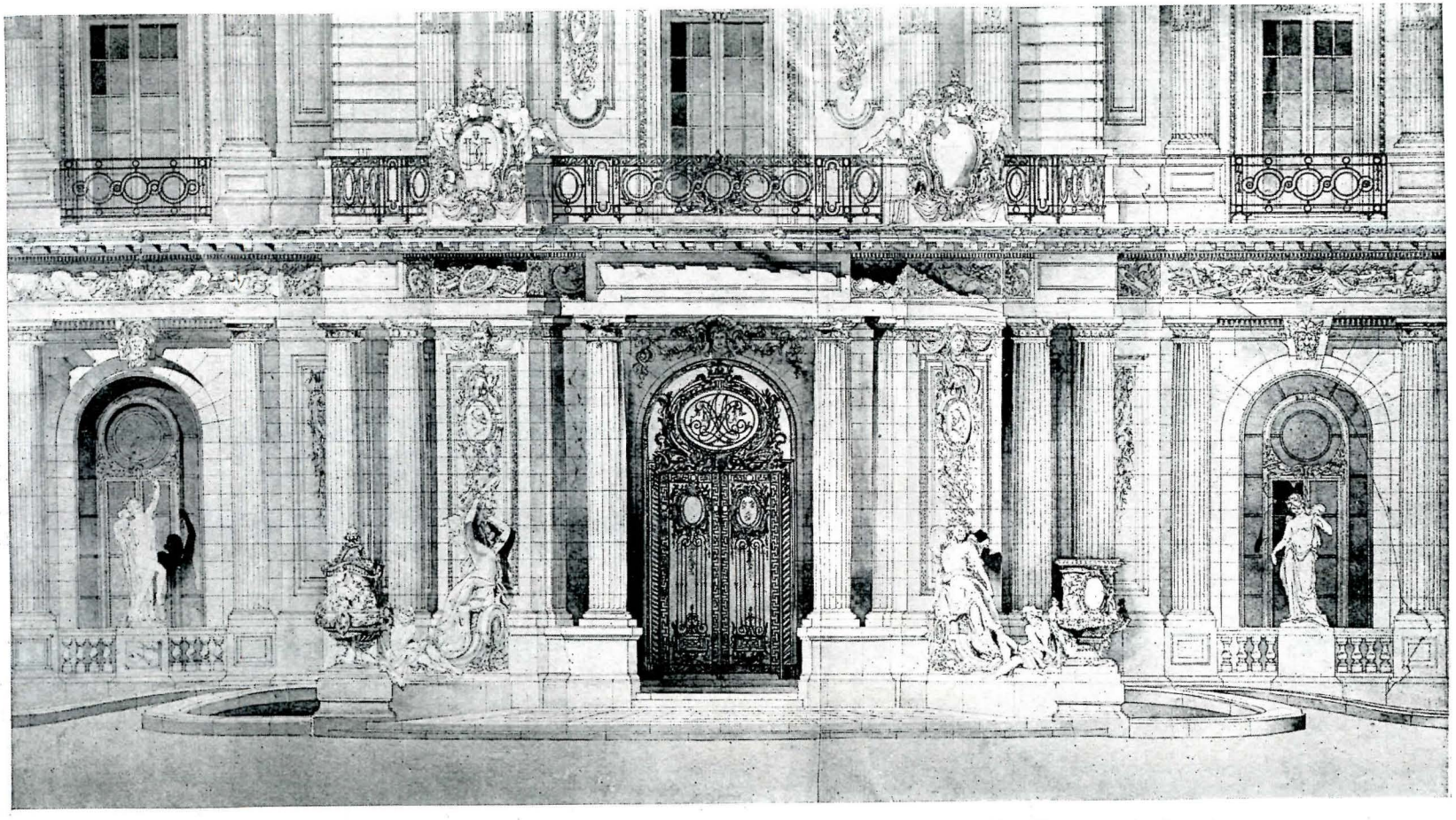

Figure 6. 1st Medal Design by Frederick Hirons, "Concours Godeboeuf—Une Descente à Couvért."

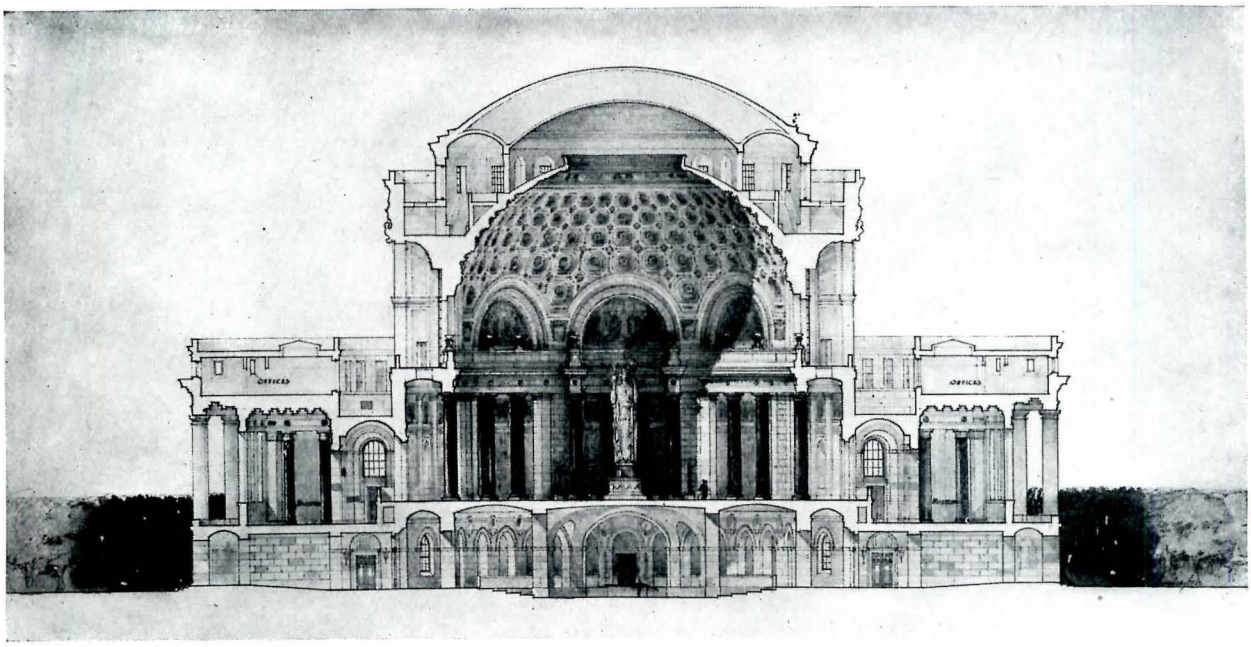

Figure 9. Section—War Memorial Museum, New York. Design by Francis S. Swales, Architect.

(*Continued from Page* 75)

it has been applied with so much knowledge and skill that the whole rendering seems to have been made with that one final touch—as though genius had covered with a natural touch of age the brand new labors of the hard working mechanic and given it life, as in the story of Pygmalion and Galatea.

The objection to naturalistic effect in connection with the conventional orthographic projection then, must be limited to specific effects which detract from, rather than add to, the architectural character.

Thus, in a study in which detail is of primary interest as, for example, (Figure 6) Mr. Hirons' design for a covered entrance, any introduction of foliage would compete with the interest intended to be centered in the ornamentation while figures in "street clothes" would detract, particularly, from the sculptural decoration. When, as in this case, the drawing is made for the purpose of showing progress in architectural study, the jury is concerned in the design for the given subject only; and in a subject of such minor extent the setting, or color, is of little consequence. Similarly in a subject such as Mr. A. Guilbert's prize drawing design for a "Baptistry" (Figure 7) in which the colored decoration is of first importance and the scale of the interior obvious, the introduction of naturalistic figures could do nothing but disturb the composition. But when the subject goes beyond the questions of detail and proportions, and more especially the location or purpose of the proposed building is such as to call for the consideration of the architecture as the complement to the landscape, the feeling must be strong that we should like to be assured that the landscape will do its part as complement. As soon as landscape becomes part of "the picture" it becomes necessary to consider how far the naturalism of the entourage may be carried in combination with the necessary conventionalism of the architectural representation. Shall the foliage be conventionalized so that it shall appear as simply a background or mass, or be so disposed as to make it an important part of the whole composition or picture? In Mr. Cret's student period, design for a small museum (Figure 8), the idea is obviously the latter. The general idea of forcing the strength of the white centre of the picture, thereby the solidity of the building, by the introduction of foreground trees is the same as in Mr. Magonigle's Kansas City Memorial drawings; but the detail work is not so far advanced. Here again is the mountain town "back-drop" of Brune's drawing (compare with Figure 1) but with the stage set with "profile cuts". The naturalism is conventionally indicated in a way that harmonizes well with the sense of the representation of the building—both are flat. The whole presentation is a remarkably good piece of student work. The use of foliage in similar conventional indication is useful in most of our practical problems for purposes of giving scale to large buildings, a mass against which to place the hard cuts of a section (Figure 9) and to set it forward as a whole, when the general rendering otherwise tends—as is usually the case with sections—to push forward the centre and kill the wings. This drawing, in carbon pencil, with the interior of the dome rendered in an orange (dark in the reproduction), caused the dome to seem to come away forward from the side wings until the dark foliage was added. This took some of the blackness out of the interior columns and intensified the effect of lighting from the interior courts.

Well rendered sections are the exception, not the rule, among architectural drawings. Usually left until the last thing in working up a competition they

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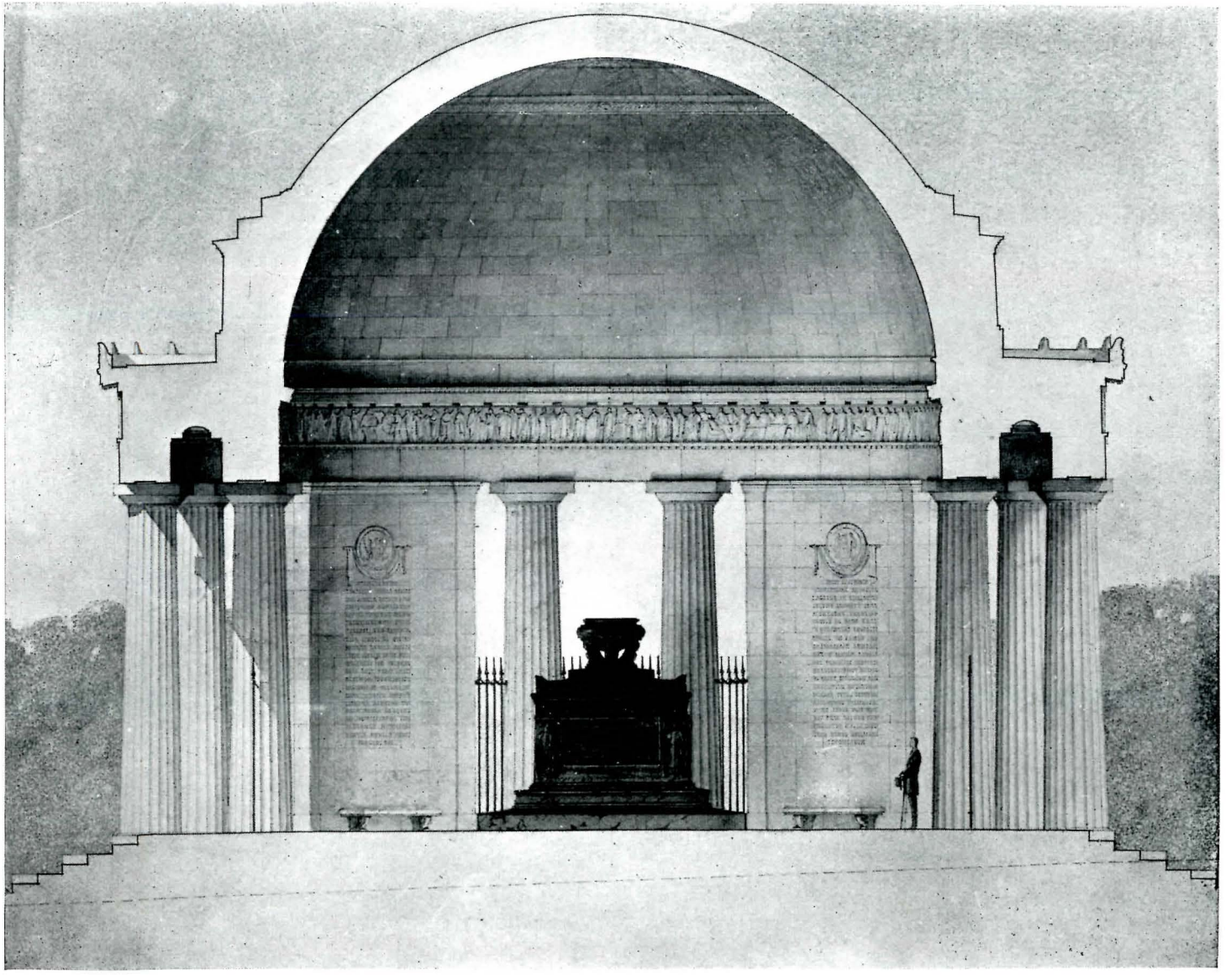

Figure 10. Portion of Drawing by Otto Eggers. Design Submitted by Office of John Russell Pope, Architect, in the Harding Memorial Competition.

Figure 11. Drawing by Otto Eggers. Design for Harding Memorial. Office of John Russell Pope, Architect.

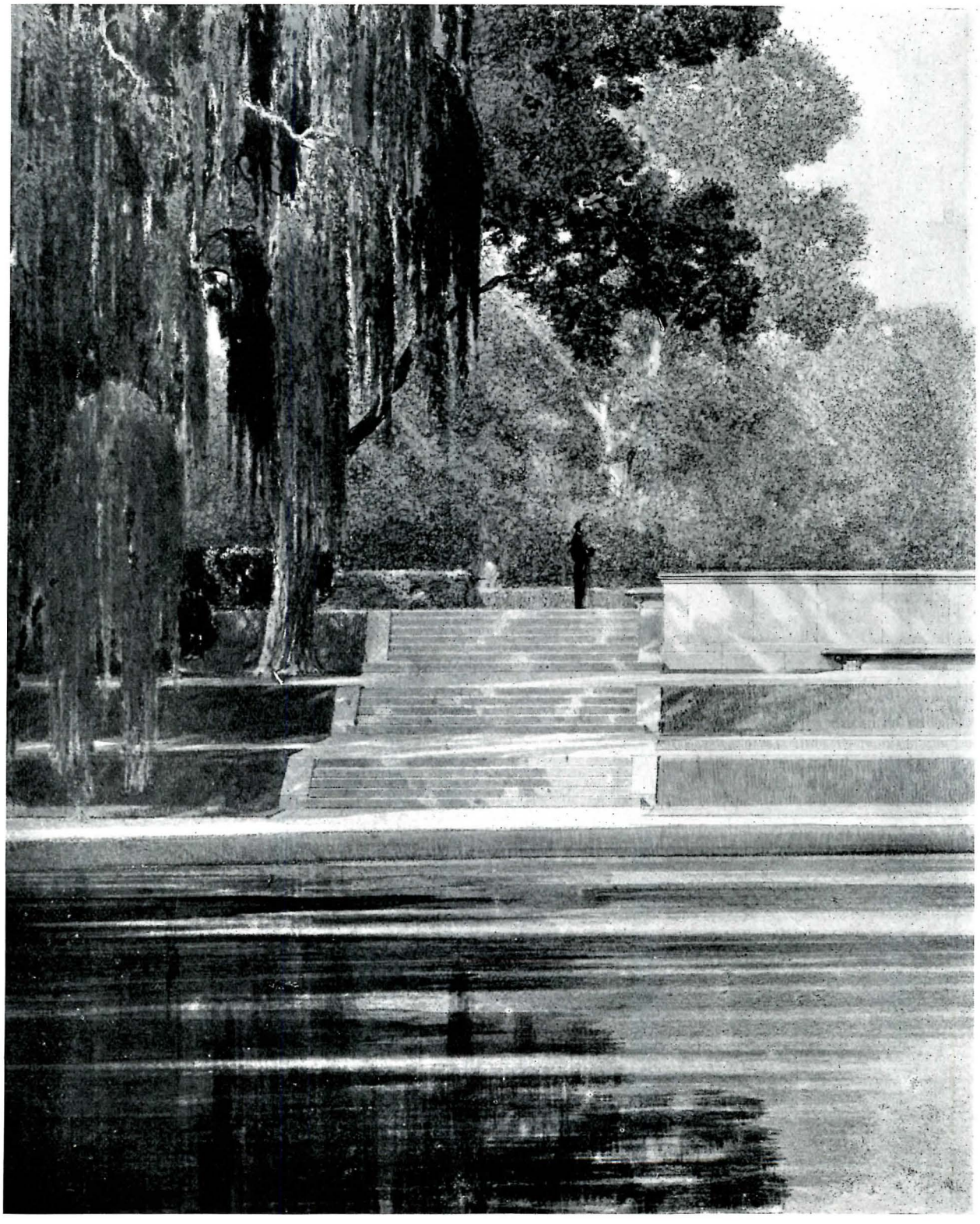

Figure 12. Drawing by Otto Eggers. Portion of the Rendering of the Elevation Submitted by the Office of John Russell Pope, Architect, in the Harding Memorial Competition.

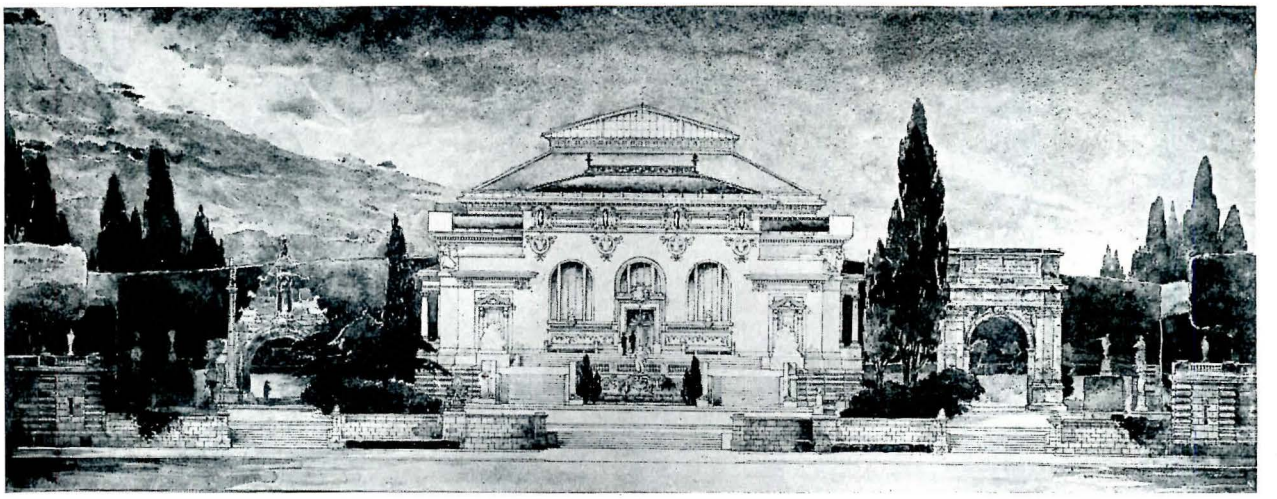

Figure 8. Design for a Small Museum by Paul P. Cret.

(*Continued from Page 82*)

more often betray the weaknesses instead of showing the strength of the design. The problem of showing the actual lighting, while maintaining the conventional shadows from light assumed to come at the angle of the diagonal of a cube, is one of the usual difficulties. Another is to show the reflected light that would come from the floor without breaking the interior into a mass of spots. Still another is how to show such a centrally located mass as the font (Figure 7) in Mr. Guilbert's "Baptistry", or the tomb in the drawing for the Harding Memorial (Figure 10) by Mr. Eggers. In both cases half of the central feature, if shown in elevation, must project forward from the plane of the cut of the section, and would be, therefore, in full sunlight and the most advanced point in the drawing. Yet another difficulty, especially if the building is round in plan, is to keep the outside wall, or column, from appearing to recede from its proper place and plane. This last difficulty can be overcome by the introduction of foliage of a tone of "grey" darker than any part of the building structure. In Mr. Eggers' drawing the washes have been given a charming *piquage* of pencil work suggesting the leafage just enough to give a contrast of texture between it and the masonry of the architecture.

The late George B. Post, in opposing the submission of perspective drawings in competitions, raised the objection that whoever was (at that time) successful in obtaining the services of Mr. Hughson Hawley to render his perspective was usually successful also in winning the competition. That was in the good old days when a majority of members of the jury were laymen. Nowadays it takes a great deal more than presentation to win with juries familiar with the best that can be done in rendering both the architecture and the entourage, otherwise Mr. Post's objection might be applied to Mr. Eggers. In the drawings for the Harding Memorial he was in great form and, whether we study only the rendering of the architecture (Figure 11) or the foliage and water (Figure 12), the part is as fine as the whole, and each a splendid model for the industrious student to follow, and to have a reproduction at hand when making an attempt at emulation. In a subject such as the Harding Memorial the planting is almost as important as the architecture. In most memorials it is more so because it often serves to hide architecture that is at its best when mostly "planted out".

The location of the building and its use will often, of course, determine whether the architecture should or should not be shown with accessories of landscape. For example, take the *Prix de Rome* design of Mr. Camille Lefèvre (Figure 13). The subject, a *chateau d'eau*—reservoir—with fountains for aëration of the water: Mr. Lefèvre's chief competitor showed the architecture without the water, and rather neglected the landscape, contending that Versailles was better without its fountains than with them. Yet part of the problem was surely to design the arrangement of water and landscape to which, as Mr. Lefèvre evidently considered, the architecture of the structures was secondary.

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THE AMERICAN ACADEMY IN ROME.

FROM letters recently received by C. Grant La Farge, Secretary of the American Academy in Rome, from Frank P. Fairbanks, Professsor in Charge, School of Fine Arts we quote the following:

"With the exception of one or two of the Fellows, all the men have undertaken travel during the month.

"Henri G. Marceau, architect, and Randall Thompson, composer, have concluded their Fellowships as far as residence at the Academy is concerned. Both men are to spend the remaining months of their incumbency traveling in Italy, France and England.

"Deam, second-year architect, and Finley, first-year painter, have concluded their tour of Spain. They have written very enthusiastically to us of their impressions. They will arrive shortly at the Academy after making some stops on the way south from Genoa.

"Douglas, first-year architect, is taking a cure at a sanatorium in Switzerland.

"Norman T. Newton, landscape architect, has left for a survey of the gardens of Northern Italy, France and England. Lawrence T. Stevens is visiting Southern France.

"Mr. Blashfield's visit to Rome and the Academy was one of the pleasant experiences of the month. Two former sculptors, Thomas Hudson Jones and Albin Polasek, stayed with us for a few days, at different times. It is very gratifying to listen to the encouragement that these men bring to us regarding the work for which the Academy stands, and to have them express most emphatically their own appreciation of what it has all meant to them, as well as what it must continue to mean to every man blessed with the opportunity to participate in the inspirational environment that the American Academy in Rome affords."

From Gorham P. Stevens, Director, we quote the following:

"The Academy has suffered a great loss in the death of Professor C. Densmore Curtis, which occurred on June 7th, after an illness of four weeks. In spite of the best possible doctors and nurses his life could not be saved. He was buried in the Protestant cemetery here, just back of Prof. Tracy Peck and in the same row with Mr. Crowninshield. He had been working very hard upon an article on "Sardis Jewelry", the MS. of which was in such excellent condition that Prof. Frank could turn it over to the publisher with full confidence that the book will be as Prof. Curtis would have wished it. It is hard to think that we shall not have Prof. Curtis with us in the future. He had made a place for himself in the archaeological world and also in the hearts of all those who knew him.

"The appointment of Mr. W. S. Richardson as annual professor in the School of Fine Arts for next year is an extremely happy one. He has not been well enough as yet to discuss the matter with me, however. With sculptor Proctor also with us next year, American arts should be well represented at the Academy.

"Prof. Kelsey is having a full-size copy made of one of the famous rooms at Pompeii. The copy of the room is to be installed at the University of Michigan.

"Mr. Edwin H. Blashfield has spent some time at the Academy going over the mosaics for St. Matthew's Church, Washington, D. C. The mosaics are finished and boxed and are to be shipped in a few days. We shall be sorry to lose Mr. Lascari, for, in addition to this important mosaic commission, which he has been working up, he has been a great help to the painters at the Academy. Among the visitors who were especially interested in these mosaics was Mr. Nicholas F. Brady of New York. Before leaving Rome, Mr. Blashfield invited many of us to a sumptuous dinner at an Italian restaurant in town.

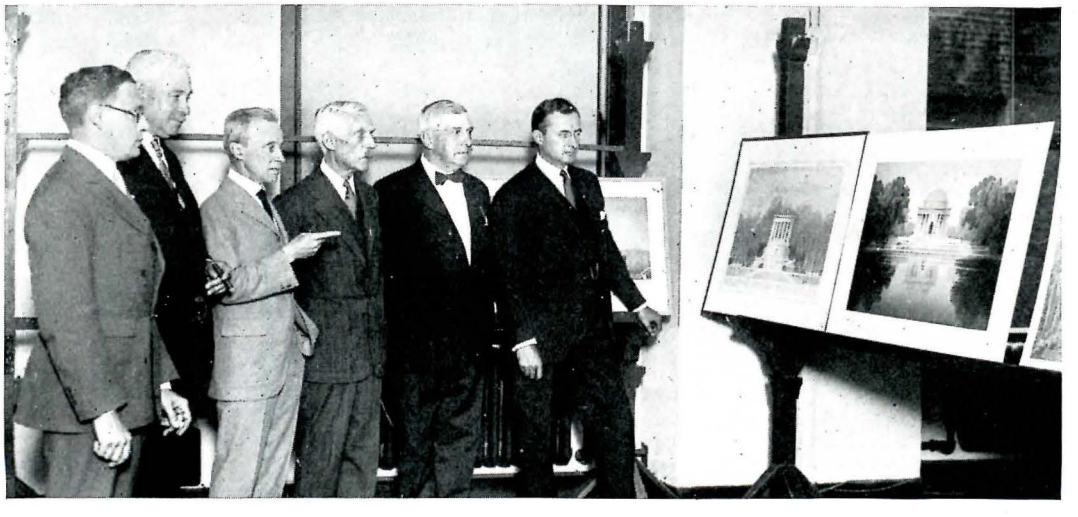
"Gifts, as follows, have been received:

"From Dr. Thomas Ashby an important collection of brick-stamps, stuccos and prehistoric objects.

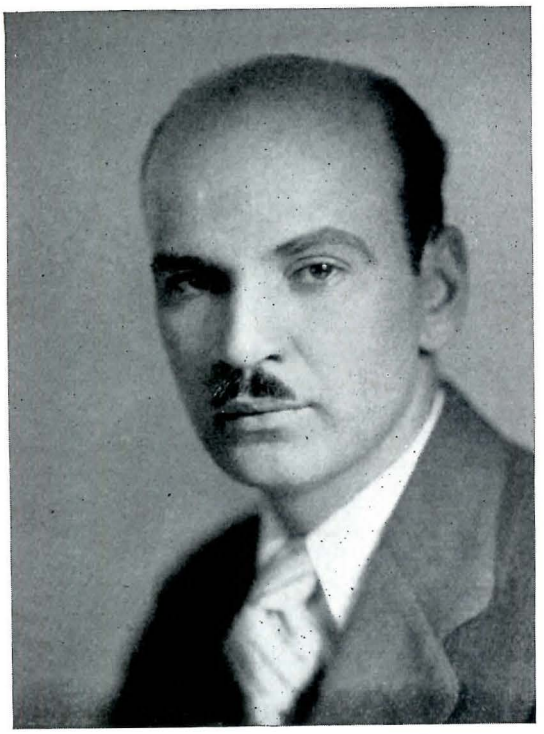
Alfred E. Hamill presented 500 lire for the Library.

From Mrs. A. Cohn $100 for the Department of Music.

"Professor Showerman, Director of the Summer School, is to arrive in Rome to-morrow, and on the 6th to begin his lectures. Sixty people seem a large number for one professor to handle, but Prof. Showerman will prove equal to the occasion."



Jury of Award for the Harding Memorial Competition: Wm. S. Wagner, Senator Joseph Frelinghuysen, John Mead Howells, Secretary of the Treasury Mellon, Charles M. Schwab and George Howe.



GEORGE FRASER

GEORGE FRASER, recently awarded the Rome Prize, was born at St. Paul, Minn., and received his undergraduate work and a B.S. degree at the University of Minnesota. In 1920-21 he took his graduate work at Cornell University and is the holder of a Master of Architecture degree from that University. After leaving Cornell, Mr. Fraser was a member of the Ohio State Faculty, returning to Cornell in 1923, where he has been a Professor of Design for two years. Mr. Fraser is a member of Phi Kappa Phi, Tau Sigma Delta, Savage Club, Gargoyle, L'Ogive and Delta Chi. Mr. Fraser feels that he is greatly indebted to Prof F. H. Bosworth, Jr., of Cornell, and Prof. Roy Childs Jones of Minnesota. He will sail shortly to take up his studies at the American Academy in Rome where he will remain for three years.

A NEW ATELIER

D. Varon, Architect, 128 Madison Avenue, New York, announces that he will this Fall start an atelier where students may receive careful individual attention in their studies. Full particulars may be secured from Mr. Varon.

CONSTRUCTION USES OF SHORT LENGTHS OF LUMBER

AMONG the possible economies pointed out in the *Report of Survey by the Department of Commerce and General Committee on Lumber Standards* is the avoidance of the practice of lapping joists past each other on the girder or bearing plate. One house examined had 12% waste from this cause. Most of this could have been avoided had odd lengths been available. Where a large number of houses were being built in a row, with party walls, on lots 17′ wide, joist and rafters had been cut from 18′ lengths with a loss of 6% until a dealer procured 17′ lengths. In the case of a house requiring 16′ 6″ rafters, where these were cut from 18′ lengths, the waste was 8.3% which a 17′ length would have reduced to 2.95%. In broken roofs such as hip, jirkenhead and valley, more short lengths are required than for a plain gable roof. As the former generally have a better appearance than the latter the report recommends the building of this type and of gable roofs with dormers.

If, instead of setting up the studs on the outside of a balloon frame the full length and cutting out window and door openings after sufficient sheathing had been nailed on to support the short pieces of studs, the studs had been cut accurately to length before assembling, a considerable saving could be accomplished. In the platform type it was found that the greatest amount of shorts was used but that these pieces were cut from 16′ lengths. It is suggested that standard length studs be used of, probably, 7′ 9″, 8′ 3″, 8′ 6″, which would be a sufficient range to cover houses as usually constructed.

The place where a large number of short lengths was utilized was in sheathing, as a large percentage of the long lengths delivered on the job were cut to go between window and door openings. Economies have been affected, according to this report, by the use of car roofers 1 x 6 matched 5′ 01½″ long, the studs being especially spaced to take this length. The report calls attention to the fact that the short lengths are more easily handled on roofs when the wind is blowing and that they can be applied much quicker if cut to exact length in multiples of 2′, the rafters being spaced this distance.

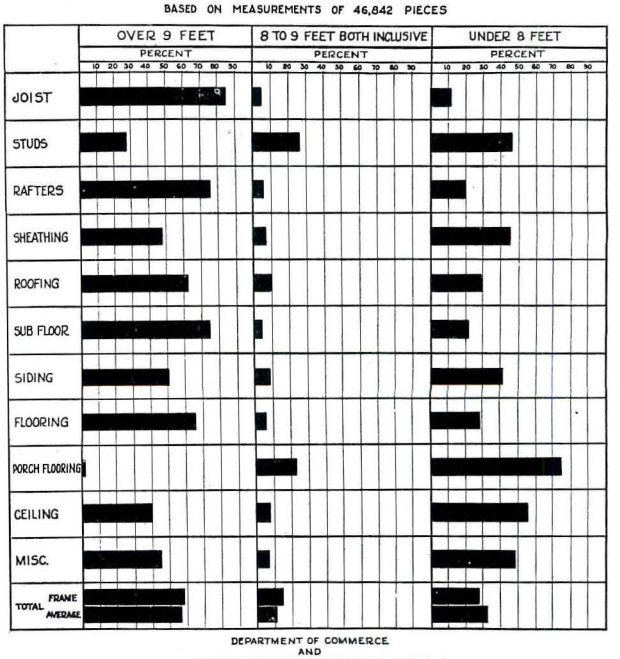
Sub-flooring is another place where short lengths can be utilized. Laying the sub-floor at 45° to the joist uses a greater quantity of material, variously estimated at from 5% to 20%. A case where the sub-flooring was laid at an angle of 72½° was cited as producing satisfactory results with no more material than when the floor was laid at 90° to the joist.

There is some objection to using butt joints in porch flooring due to the liability of their retaining moisture, thus causing decay. As most porches are about 8′ wide it would seem inadvisable to purchase this in shorter lengths.

Ceilings were found to contain more short lengths than any other item and it was found that 15″ pieces were cut from 18′ lengths. The practice of cutting these short pieces was common in nearly every job surveyed, though the lengths cut from were usually from 8′ to 16′. A case is cited of using 8′ car siding for ceiling, being spaced 2′ on centers. In the opinion of several builders flooring should be made in multiples of 16″ especially those pieces under 8′. A table showing construction use of short lengths of lumber is printed below.

CONSTRUCTION USES OF SHORT LENGTHS OF LUMBER

BASED ON MEASUREMENTS OF 46,842 PIECES



DEPARTMENT OF COMMERCE
AND
CENTRAL COMMITTEE OF LUMBER STANDARDS
R. V. DAWSON - SPECIAL AGENT

BOGUS SUBSCRIPTION AGENT CONVICTED!

William H. Sibley.

WILLIAM H. SIBLEY; alias W. L. Hitchens; alias W. H. Lander; alias G. W. H. Ball; alias E. Mathews; alias E. Lane; who also operated under the name of The Allied Arts Service of Buffalo, New York, and Bridgeburg, Ontario, was convicted on five charges of theft against several architectural journals, and sentenced at Hamilton, Ontario, August 5, 1925, to two years imprisonment.

Herewith is a partial record of his activities during the past three years, as traced by a member of the staff of PENCIL POINTS.

In June, 1922, he stopped at the Reeta Hotel in Welland, Ontario, under the name of William H. Lander. After remaining there a week, he left suddenly owing a hotel bill of $35.00

In July 1922 he went to Galt, Ontario, and began business under the name of William Sibley—The Empire Press, selling subscriptions for the *Architectural Forum*, —which he later sent in from Bridgeburg, Ontario, with a worthless check signed by "W. L. Hitchens".

After remaining in Galt for a month, he defrauded the Y. M. C. A. for four weeks' room rent by giving them a worthless check. His next appearance was in Buffalo, N. Y., where on Oct. 9, 1922, he was arrested under the names of W. H. Sillibley, alias W. H. Linder, alias W. H. Ball, on a charge of forgery 3rd degree, and sentenced to three months in the Erie County Penitentiary—sentence suspended and ordered out of city.

In 1923, he again operated in Buffalo under the name of G. W. H. Ball, selling subscriptions for PENCIL POINTS, etc. etc.

During the latter part of 1923, he went to Rochester, N. Y., and collected money for subscriptions for PENCIL POINTS under the name of W. L. Hitchens, and later sent them in with a worthless check signed "W. H. Lander".

In 1924, he sold subscriptions in Ottawa and Montreal, Canada, under the name of W. L. Hitchens, and later sent them in with a worthless check signed "William Sibley".

In the Fall of 1924, he went to England and sold subscriptions for PENCIL POINTS at five dollars each (the regular price being only three dollars) under the names of E. Lane and E. Mathews, neglecting to send in any money for any of them, being so forgetful in such matters.

Returning to America in the Spring of 1925, he made his first appearance at Bridgeburg, Ontario, where he roomed for a month (March-April) under the name of G. W. H. Ball.

In June 1925, he transferred his activities to Niagara Falls, Ontario, where he registered at the Hotel Trennick under the name of W. H. Lander. After remaining there a week he gave as payment for his hotel bill a worthless check drawn to W. H. Lander and signed "G. W. H. Ball".

On June 25, 1925, he registered at the Y. M. C. A. in Hamilton, Ontario, as W. L. Hitchens, hired a typewriter for a month and proceeded to work the town.

One of his little pleasantries in Hamilton was to sell a subscription for the *Architectural Forum* in payment for which he received a check made payable to G. W. H. Ball, explaining that this was the man for whom he worked in Buffalo. This check was endorsed and cashed at the Bank in Hamilton on the same day he received it—July 4th. After committing several other minor depredations in Hamilton, he was arrested, convicted and sentenced to two years' imprisonment, after pleading guilty to five charges of theft.

His previous criminal record as furnished by the Periodical Publishers' Association of America is as follows:—

Extract No. 1.—SIBLEY, WILLIAM B.—See Bennett, J. B.

Extract No. 2—BENNETT, J. B.—Reported in Bulletin No. 14, page 118—Alias Wm. Lander, A. B. Jones, Miss E. M. Norton, Mrs. L. B. Bradley, W. G. Maynard, C. J. Leonard, Otto J. Trevelyan—After jumping his bail in May, 1914, in Waterbury, Conn., he started out on his career as before, viz.: securing fraudulent subscriptions and remitting with checks that were N. G. Worked throughout Connecticut. Arrested in Poughkeepsie, June 1916, and sentenced to serve ten days. He was taken to New Rochelle and was sentenced on June 21, 1916, to serve 11 months and 29 days for passing worthless checks.

If you have been defrauded in any manner by this man please send particulars to this office, also

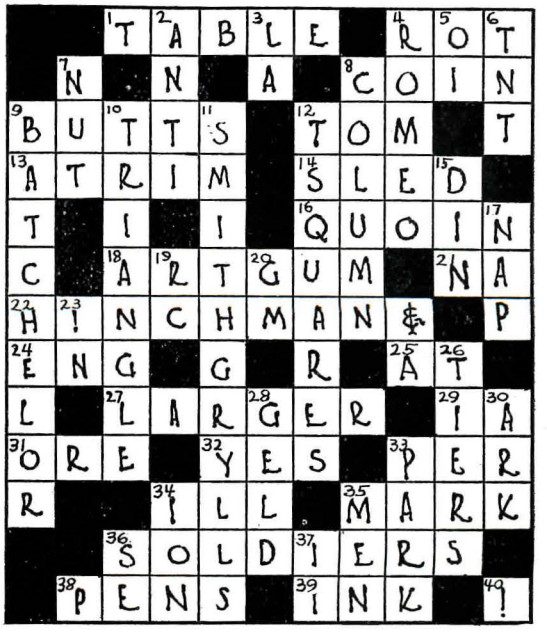
BEWARE:

WE HAVE NO TRAVELLING SUBSCRIPTION AGENTS,

Do not subscribe for PENCIL POINTS through any one not known personally to yourself.

NATIONAL EXPOSITION OF POWER AND MECHANICAL ENGINEERING

THE Fourth National Exposition of Power and Mechanical Engineering will be held in the Grand Central Palace, New York, from November 30th through December 5th, 1925. This exposition is an important clearing house of information for the executives and engineers of all industries. At the coming show a series of exhibits of heating and ventilating machinery will form an important addition to the lines usually represented. The heating and ventilating problem is closely allied to the power problem of an industry and the advances in one art are generally applicable to the other. This innovation at the coming Show will, therefore, increase its value to the visitors who will find much of real worth in the exhibits of all phases of the heating and ventilating art. The Annual Meetings of The American Society of Mechanical Engineers and The American Society of Refrigerating Engineers will be held during the week of the Show. The managers of the Show are Fred W. Payne and Charles W. Roth, with offices in the Grand Central Palace, New York.



Answer to Puzzle Appearing on Page 96-f

ARCHITECTURAL TENNIS TOURNAMENT

THE draw for the annual Architectural Tennis Tournament for the William Adams Delano trophy was made on August 1st and at the present time the playing is well under way.

Departing from the precedure of last year, the tournament is being run on the elimination basis, with a consolation tournament for those men defeated in the preliminary and first rounds, affording each man at least two matches. There were 48 entries in the singles representing 25 different offices; the following men being ceded:

N. W. McBurney .....Peabody, Wilson & Brown
A. M. Koch ..... J. E. R. Carpenter
H. W. Lawson ..... J. E. R. Carpenter
G. B. Kayser ..... Jas. G. Rogers

The draw for the doubles tournament, with fourteen teams entered, has also started and many good matches are expected.

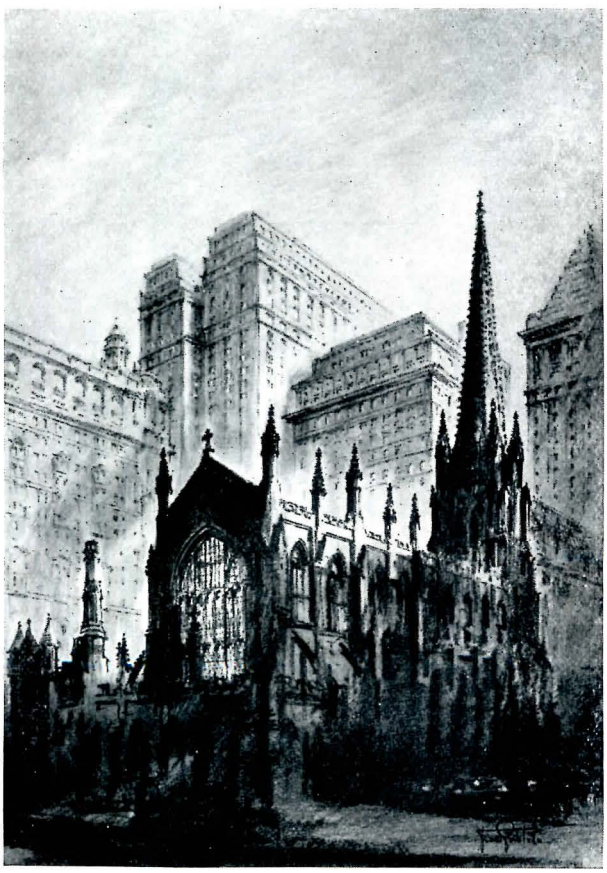
The following prizes are to be awarded:

Singles Tournament
Winner—Delano trophy and solid gold medal
Runner Up—Gold Filled Medal
Semi-Finalists—Silver Medals
Qualifying Round—Bronze Medals

Doubles Tournament
Winners—Silver Cups
Runners up—Silver Medals

Consolation Tournament
Winners—Silver Medals
Runners up—Bronze Medals

The finals of the three tournaments will be played on September 27th, at Mr. William Adams Delano's estate at Syosset, L. I.



Trinity Church, New York. Pastel and Crayon Drawing by Theodore de Postels.

Sketch of the late King Edward by Emil Fuchs.

ROME PRIZE AWARDED

THE Rome Prize has recently been awarded to George Fraser and he has been appointed a Fellow in architecture. The award was made on a competitive basis, an eleven day preliminary competition was followed by a final one lasting four weeks. For the first competition the problem assigned was "A Monumental Entrance to a Park in a Large City". Of the twenty-three preliminary competitors ten were chosen for the finals, for which the subject was "A Design for a Stadium, Open Air Theatre and Water Gate for a University Situated on the Terrace of a River". This competition was held simultaneously at the University of California, Columbia, Cornell, Armour Institute, Chicago, and Ohio State University. The members of the Jury of Award were Wm. M. Kendall, Chairman, Louis Ayres, W. A. Delano, T. H. Ellett and Charles A. Platt. The stipend of the Fellowship is $1,250 a year. Mr. Fraser will remain at the Academy in Rome for a term of three years.

MEDAL OF S.A.D.G.F. AWARDED TO CATHOLIC UNIVERSITY OF AMERICA

THE Medal, which is awarded every year by the American Group of the *Societé des Architectes Diplomés par le Gouvernement Français* to the College or University obtaining the highest proportion of values in the work of the Beaux Arts Institute of Design, has been awarded to the Department of Architecture of the Catholic University of America, Washington, D. C. The Dean of the Department, Professor Frederick V. Murphy, was also the recipient of a personal letter of appreciation from the president of the Societé, Mr. Chester Aldrich, following the announcement of the award through the Secretary, Mr. Edwin H. Danby.

WE ALWAYS like to get honest, first-hand expressions of opinion from our readers on any and all subjects in which they may be interested. We print herewith an anonymous letter and shall be glad to have the writer disclose his identity—in fact we invite him to call at our office to discuss the subject of his communication:—

"PENCIL POINTS is a fine publication and it has a very well worth while ideal. But, why doesn't it go right to the roots?—

"It is made up of part 'instruction to draftsmen as to draftsmenship'— and part 'sociability'.

"Why not have an editorial page where somebody will tell the draftsman the *plain truth* about the profession of architecture and the practice of it?

"And the *first, foremost* and *most important* message to them should be that—for the sake of their health, wealth and happiness—it is essential that they so prepare themselves while they are draftsmen working for someone else, that, when they 'hang out their own shingles' they won't have to 'practice' the profession. They will *know* it.

"There are so many things—thousands of them—that the draftsman can learn when he is working for someone else and that are so essential to his knowledge before he starts in for himself—yet that he doesn't learn, because nobody has ever taken the trouble to point them out to him.

"And so—he learns them, year after year—while he is in business for himself—and at the expense of his client —and his own self respect. Troubles with clients, who discover that the architect doesn't know. Troubles with contractors, who discover it before the clients do. Broken morale—broken health because of worry—precarious clientele—poor finances—paying for ignorance, etc.

"Why? Oh! Why?—shouldn't the draftsmen be told that they should learn 'building materials and methods'—'specification writing'—'supervision of construction' while they are 'working for somebody else?'

"Why should they be allowed to drift along in an office with the idea 'that that's all there is to it'. To 'work for three or four years, and then start in business'.

"When, what they should be doing is following a regular schedule of *'what there is to learn before our start in business'*.

"Most of them would cut out the 'movies', auto rides, etc. and get down to business at once for they would see that getting there by just the day's work would be pretty slow business.

"There isn't one draftsman in a thousand who has any idea of what being a real architect entails or requires.

"Why leave these men to wake up at forty-five and realize that nobody bothered to set them right and that what they *might have learned in four years*—has taken them twenty and they have enough yet to learn to fill up the *next twenty?*

"How about it, PENCIL POINTS?"

"P. S. Your first article in this month's (August) issue approaches the subject."

PERSONALS

CHAS. N. WHINSTON & BRO., ARCHITECTS, 2 Columbus Circle, New York, have opened an office in the First National Bank Bldg., Mount Vernon, N. Y., where all Westchester County work will be handled.

GWYNN OFFICER, has removed his offices to 2612 Regent Street, Berkeley, California.

JOHN M. HOWELLS, RAYMOND M. HOOD, ASSOCIATED ARCHITECTS, have removed their Chicago offices to the Tribune Tower, Tribune Square.

HARRY B. HOSTETTER, LANDSCAPE ARCHITECT, has removed his offices to the Conestoga Bank Building, Lancaster, Pa.

W. D. BENES, ARCHITECT, has severed his connections with The Hubbell & Benes Co., and has opened an office at 1610 Euclid Avenue, Cleveland, O.

BRUCE H. WRIGHT and KENNETH F. NOXON have formed the firm of Wright and Noxon, Architects, and will continue their practice at 96 Bloor Street West, Toronto, Canada.

HERBERT JOHNSON BURKE is now a member of the firm of Smithey & Tardy, Architects and Engineers, 112 Kirk Avenue, W., Roanoke, Va., and will be associated with them in the general practice of architecture.

LEO M. BAUER, ARCHITECT, is now located at 535-536 Detroit Free Press Building, Detroit, Michigan.

B. LEO STEIF & COMPANY, ARCHITECTS, have removed their offices to the Bell Building, 307 Michigan Avenue North, Chicago, Ill.

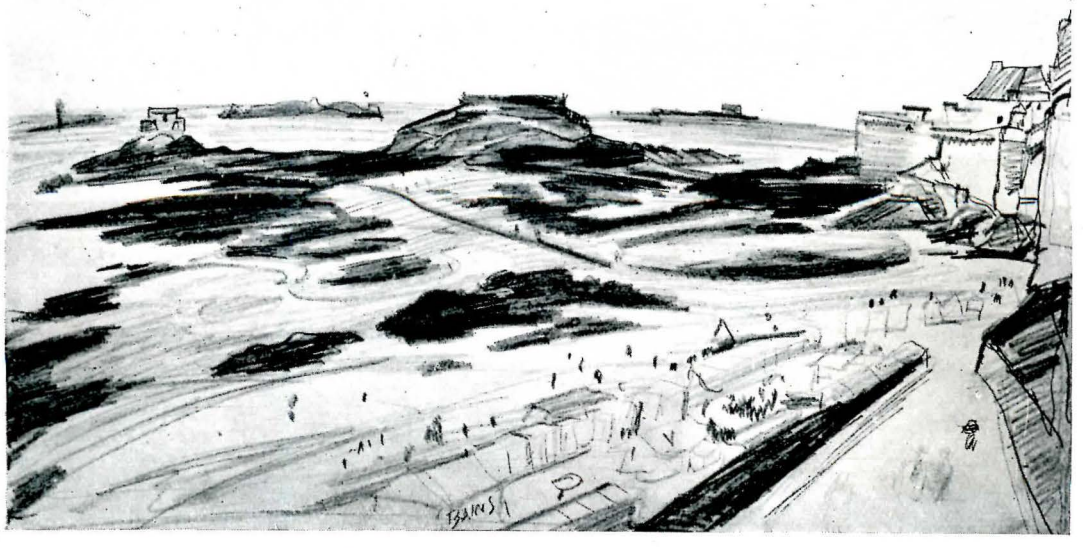
MYRON E. PUGH has opened an office for the general practice of architecture at 111 South Hamilton St., Madison, Wis.

LOUIS C. ROSENBERG has recently returned from a thirteen months' trip in England and on the continent and has brought with him a number of delightful pencil drawings and etchings, some of which we shall be privileged to show in PENCIL POINTS. Mr. Rosenberg will be remembered by our readers as the winner of the Birch Burdette Long Competition for 1922.

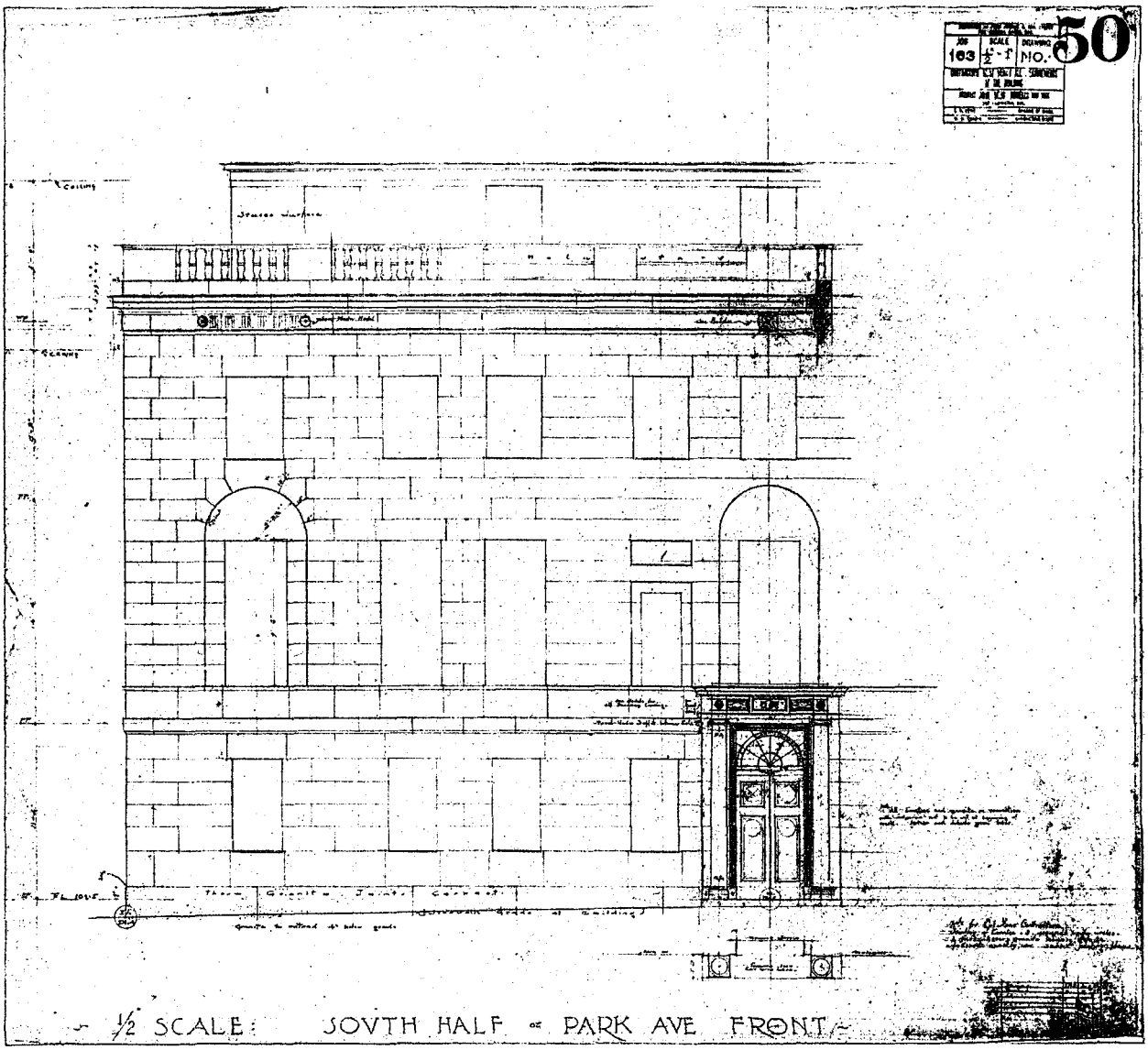
DANIEL WENTWORTH WRIGHT has been granted a certificate to practice architecture in the State of New Jersey and he is now associated with Kenneth Whitney Dalzell in the general practice of architecture at Maplewood, N. J.

ALLAN B. BATES and EDWARD FRANKLIN, formerly with Charles Kreymborg and Son, Architects, have formed a partnership for the practice of architecture with offices at 645 East Tremont Ave., Bronx, N. Y.

ARTHUR W. COOTE of 101 Park Ave., New York, has opened an office at 123 N. E. Third Ave., Miami, Fla.



Sketch by Barry Faulkner, Beach of St. Malo, at low tide.



This working Drawing, Made in Pencil by Mr. Howells, when compared with the photograph on the opposite page, shows how exactly the appearance shown in the drawings is duplicated in the executed work.

Residence at the Northwest corner of Park Avenue and 75th Street (820 *Park Avenue*), *John Mead Howells, Architect.* *See drawing on the opposite page.*

A COMPARISON OF DRAWINGS WITH THE EXECUTED WORK

HOW closely it is possible to study the composition of a work of architecture in the drawings is shown by comparison of the working drawings and photographs of the residence at 820 Park Avenue, New York, of which John Mead Howells was the architect. On page is reproduced a half elevation of the Park Avenue front of this building, while on page is shown a photograph of the completed structure. In this case the composition is practically in one plane and consists only of the fenestration and two horizontal lines, extreme simplicity and flatness were sought. The stone work was erected directly from Mr. Howells' drawing and, with the exception of the wooden canopies introduced in the windows and the iron grilles below, which were not shown, the effect of the drawing and of the executed work are exactly the same.

In order that the design of the doorway as drawn by Mr. Howells may be compared with the finished doorway, this portion of the drawing showing this detail is reproduced here at larger size (about the same size as on the original drawing, which is at the scale of ¼″=1 ft.). This closer inspection shows that in detail as well as in general the elevation and the finished work are alike, a result much to be desired and that can be obtained only through full and proper study of the design and clear, correct indication of it on the drawing. In passing, it is interesting to note that, as a mezzanine floor goes through at the level of the stone transom bar the glass in the fan-light motive is of mirrors.

COMMITTEE ON "CUBING OF BUILDINGS" CREATED BY AMERICAN INSTITUTE OF ARCHITECTS

REALIZING that differences now exist among architects, contractors, appraisal organizations, bonding companies, and others concerned with the size and approximate cost of buildings as to the methods used in determining the cubical contents of any structure for estimating, appraisal and other purposes, the American Institute of Architects has appointed a committee to ascertain, codify and review the various methods now in use and prepare a report to the Scientific Research Department of the Institute.

This committee which is known as the "Sub-Committee on Cubing of Buildings" of the Structural Service Committee of the Institute is composed of D. Knickerbacker Boyd, Chairman, Dr. Warren P. Laird, Philadelphia and Dalton J. Snyder, Detroit.

It is the desire of the committee to receive the cooperation of all Associations, Companies and individual authorities in developing methods of cubing various buildings which may be accepted by the Building Industry and used by all as common basic factors.

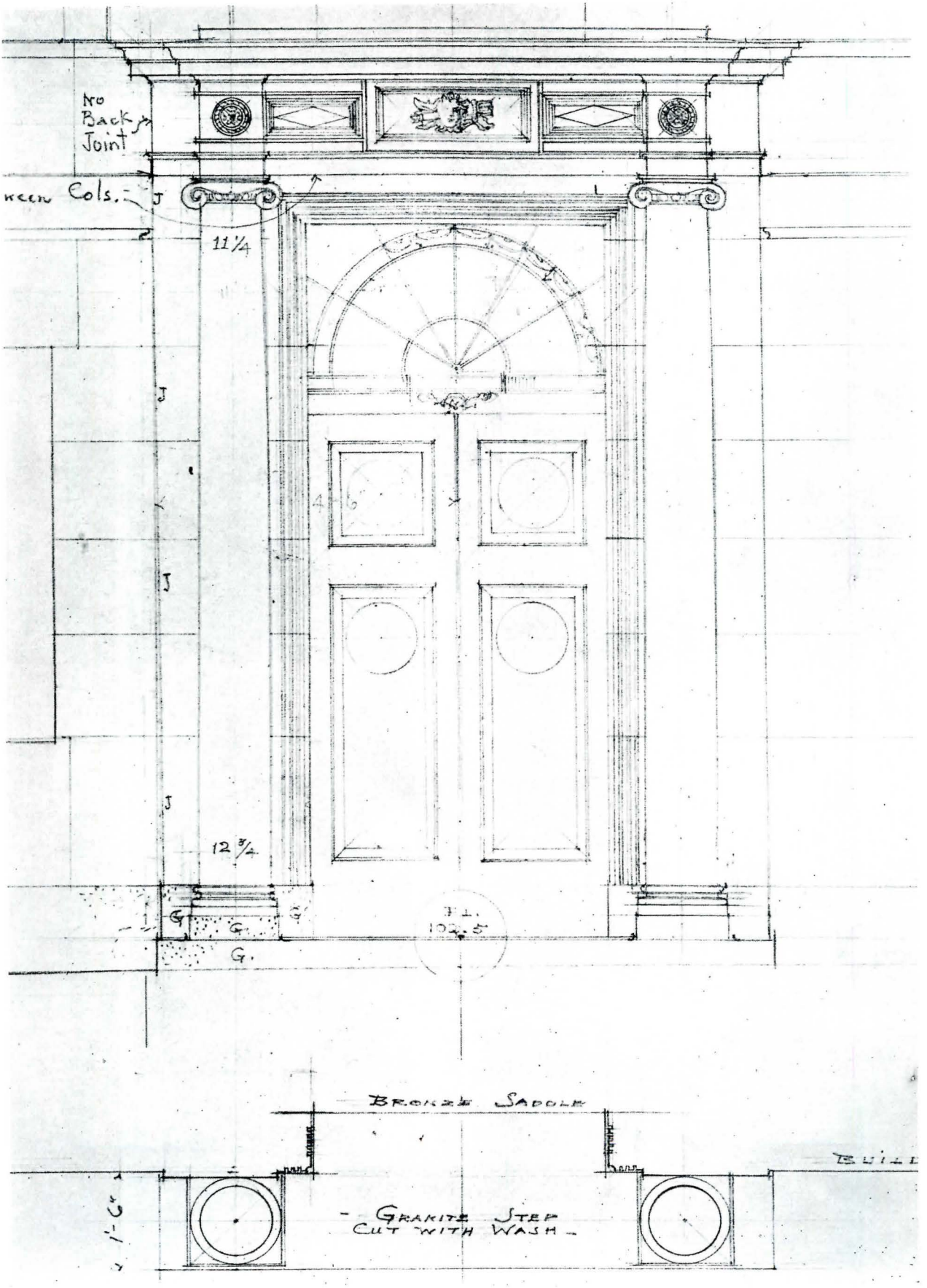
Suggestions or information relating to this subject which will assist the committee and the industry will be welcomed. They should be sent to D. Knickerbacker Boyd, Chairman, 112 South 16th Street, Philadelphia, Penna.

A FREE EMPLOYMENT SERVICE FOR READERS OF PENCIL POINTS

(Other items on Pages 126 and 128)

Architectural draftsman, graduate of a European College, with 4½ years' American experience on high class fireproof apartment houses and commercial buildings desires connection with established firm in New York City. Box 134, Pencil Points.

Draftsman—Free Lance, in New York City, to trace floor plans from architect's blue prints for reproduction in renting booklets. Only those who understand mercantile and apartment building plans need apply. Must be excellent letterer, able to draw single stroke block letter without serifs. Can be done in spare time at home. Box 135, Pencil Points.



Elevation of Doorway. Residence at the Northwest corner of Park Avenue and 75th Street (820 Park Avenue), John Mead Howells, Architect. Portion of drawing on page 92 showing how exactly the finished work may resemble the working drawing.

Residence at the Northwest corner of Park Avenue and 75th Street (820 Park Avenue), John Mead Howells, Architect. See working drawing on the opposite page.

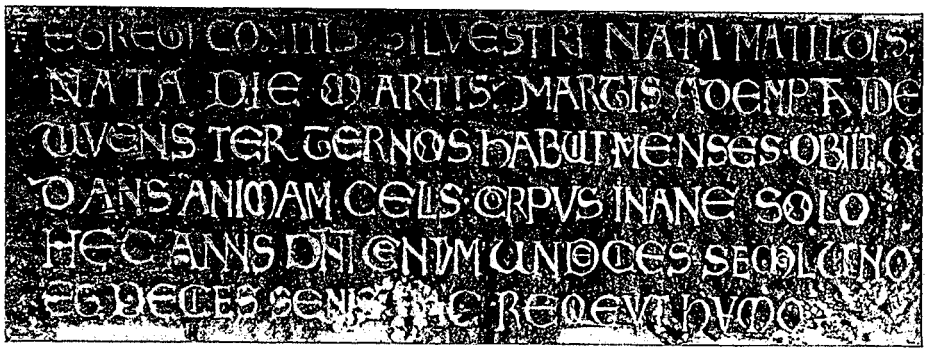


Figure 2.

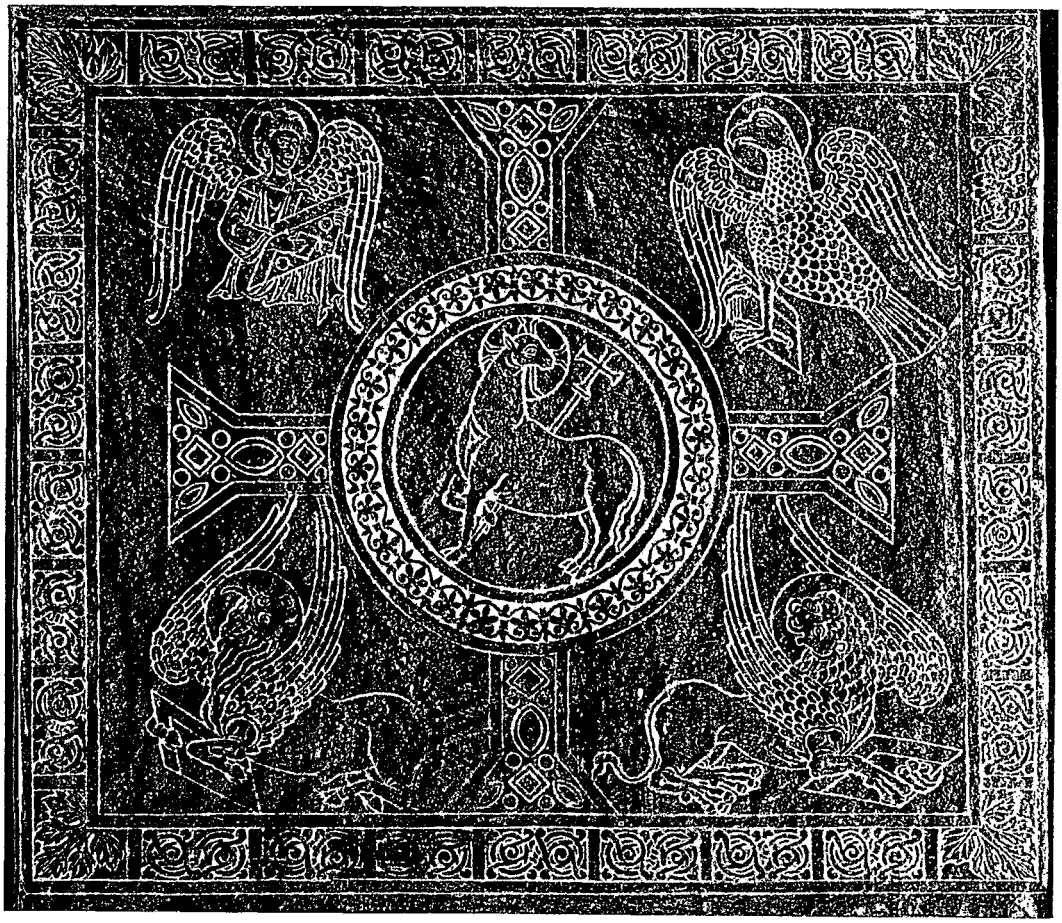


Figure 1.

Rubbings Made by Otto F. Cerny.
(see text on opposite page).

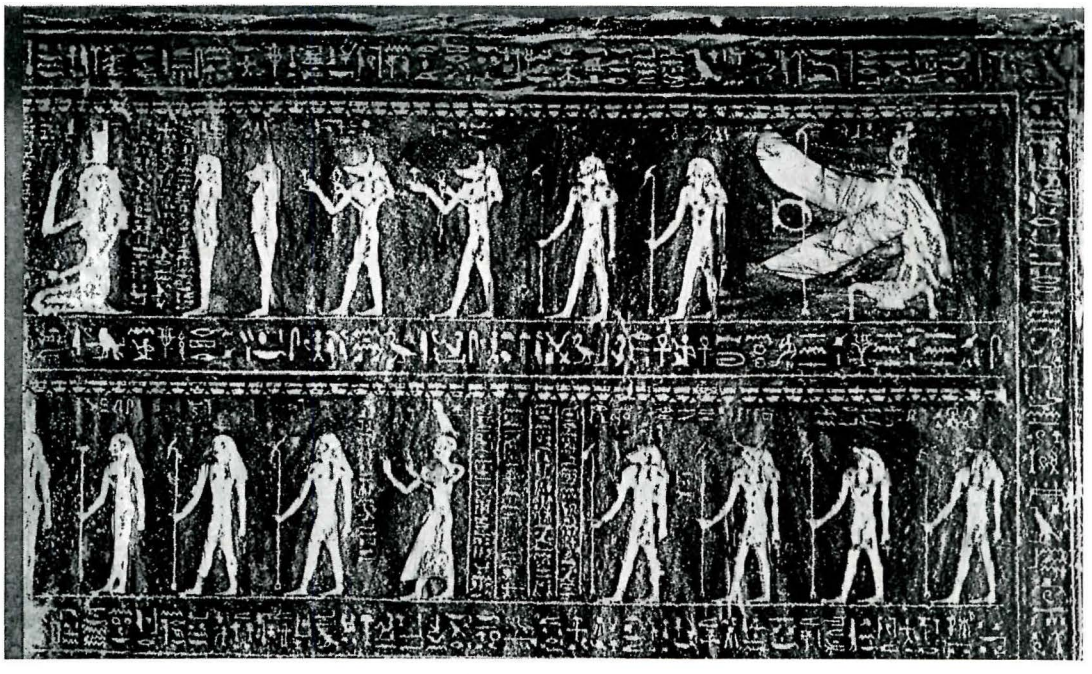


Figure 5. Rubbing made by Otto F. Cerny.

SOME INTERESTING RUBBINGS

A NUMBER of interesting rubbings, which we have selected from among those brought back by Otto F. Cerny from his travels as Le Brun scholar, are printed in these pages. In response to a request for information about these rubbings, Mr. Cerny has written us a letter from which we quote the following:

"Regarding your request for the identification of the rubbings, I beg to inform you that to simplify matters they have been numbered.

"The first is a pulpit built in 1161, and is placed in an old church about fifteen feet from the tower of Chiesa dela Mortovana. It was very difficult to make the man in charge understand just what was desired, when I asked for permission to make this impression. Two lives and several demonstrations, together with the assurance that I did not want to purchase it, finally gave me the desired right on the following morrow in the absence of the priests. Due to my inexperience in making such copies, I was forced to hold the paper with one hand and rub with shoemakers' wax with the other.

"The second is an impression of a carved stone inserted on the inside wall of the same church.

"The third and fourth were taken from carved wooden confessional booths in an interesting modern Romanesque Church near via Piemonte and via Sal Lustiana, Rome. Mr. Cummings, of Australia, was with me and together we rubbed all of the ornament and then cut the sheet in two so that each of us had a copy of every piece of ornament.

"Number five was taken from one of the numerous tombs in the Cairo museum. My letter from the American Academy in Rome assisted me in obtaining permission to do this. Not having seen the process before, the officials gathered, asking what I used and where such a material could be obtained, which fortunately was found in Cairo, This, they later said, would be invaluable to them for recording. Recent acquisitions are not to be reproduced nor are those from 'King Tut's' tomb. The tombs average twenty-four feet in perimeter, so that a long piece of paper wound around and held by a string simplified matters. During the process of wrapping the paper around a tomb, an American lady inquired if they were sending it away, and if I would be so kind as to unwrap it so that she could give it one last look."

ANSWERS

IN ALL that has been said anent the subject of improvement in the income of the deserving draftsman, nothing has yet appeared that can be considered a real help to the individual.

It is like waving a red flag at a bull to remind one of these embryo-architects that he is a sight better off than the scrub-lady or that all department store hirelings cannot be Lords or Taylors.

That is in no sense to the point. The point is that, after one has spent eight or ten years in conscientiously educating and training himself in an honorable profession, it is a pity that he should discover himself to be no better off as to income than the building mechanic who can master his trade in a year or so, without education, and making wages meanwhile.

Undoubtedly, the law of supply and demand has much to do with both cases. The building mechanic, together with all other labor in the United States, has been vastly uplifted, as to wages, since the world war, by the curtailment of immigration brought about through political manipulation by organized labor.

How cleverly this has been effected is evidenced by the fact that both political parties are committed to our present immigration policy, notwithstanding the considerable havoc it has wrought the country over.

We are told (by the most subtle and insidious propoganda) that curtailment of immigration was necessary for just one reason—that we *must* cut down on the hordes of southern Europeans who would otherwise o'erwhelm us and imperil our very existence. Just this one reason for the restriction!

And the result!

Labor, especially building labor, has been enabled to force its wages up and up (and correspondingly reduce its output) until, although we are spending more for building than ever before, the results are far from correspondingly great.

Farmers, without the customary annual increase in population, find themselves with fewer mouths to feed, albeit with higher cost of production.

Exporters, with costs mounting ever upwards, discover the foreign customers' unwillingness or inability to meet the increase.

And, perhaps worst of all, we see a most unfortunate shift in our own working population. The question is, are we bettered by the movement of the southern negro to our northern cities and the influx of Mexicans to the South and West more than we would have been by a similar quota of Italians and Greeks? We can, at least, assimilate

(*Continued on page 96-d*)

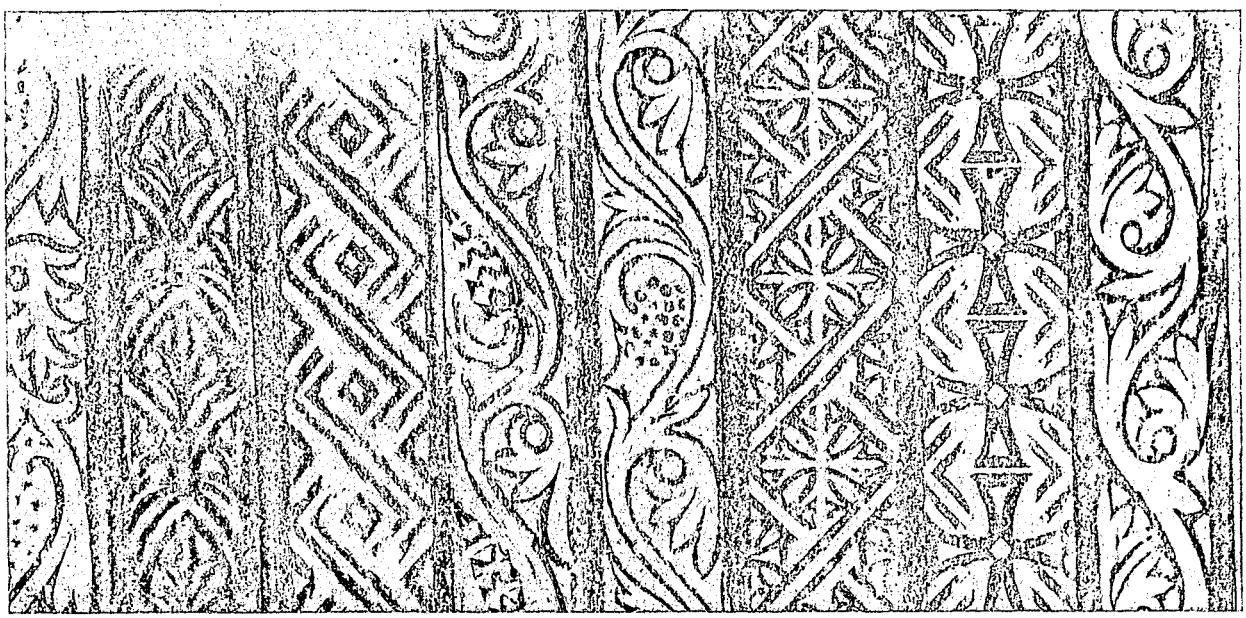


Figure 3.

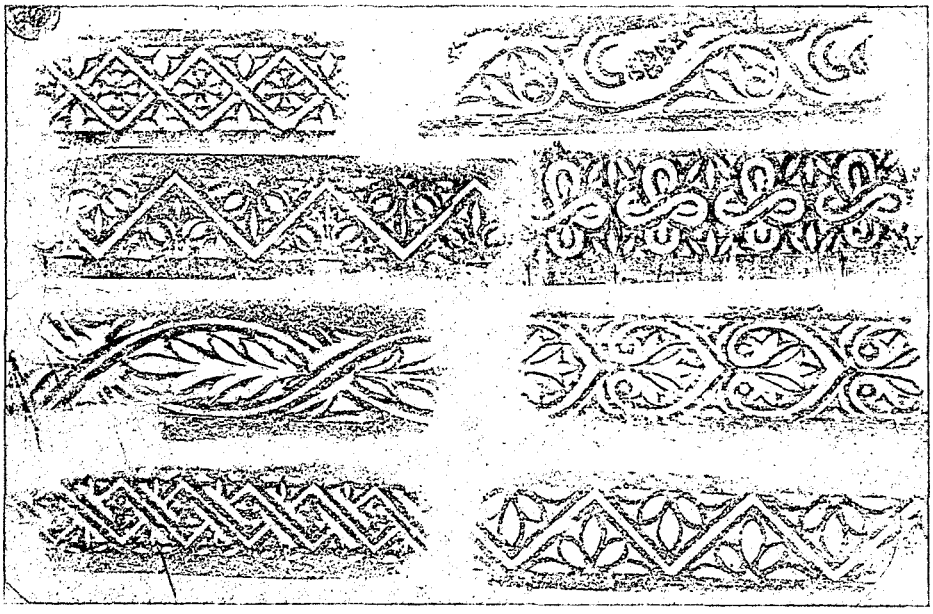


Figure 4.

Rubbings Made by Otto F. Cerny.
(see text on page 96a)

"SUBSTITUTION"

Editor, PENCIL POINTS,
Dear Sir:

Your article on "Substitution" in July issue of PENCIL POINTS is very much to the point. Manufacturers of genuine wrought iron pipe have had a long and discouraging experience with the kind of substitution of which you speak, namely the installation by the contractor of an article which is cheaper than that specified. You hit the nail on the head in saying that in this case the owner pays for the specified article, but he does not receive it, and the contractor in most, if not all, cases reaps an extra profit by the use of a lower priced article.

How to prevent such substitution has for many years baffled the efforts of both architects and pipe manufacturers. In this case it seemed unreasonable to expect an architect to examine every piece of pipe that went into a building which required anywhere from ten to fifty miles of pipe, even if his fee was large enough to permit him to keep competent inspectors on the ground all the time.

The cases of substitution discovered by us convinced us that extensive substitution was taking place, with little chance of discovery. Hundreds of cases could be cited, but the two following are particularly illuminating.

On a government housing project, a firm of testing engineers of national reputation was employed specifically to pass on all materials received or installed. The specifications called for genuine wrought iron pipe. Naturally we felt very sure, in this instance, that no substitution could take place. It so happened that one of our men visited the project while under construction, on a mission of entirely different nature, and quite accidentally discovered that only an occasional length of genuine wrought iron pipe had been installed, the greater part of it being pipe of another material selling in the open market as much as 40% below the former.

In another case, we had occasion to remodel one of our own buildings, and discovered that the contractor had brought in a considerable proportion of pipe other than our own, which quite naturally was specified. The other pipe was much cheaper. Happily, we caught the "mistake" in time, but the incident came so close home that it absolutely convinced us that no marking, except of the most conspicuous character, could ever effectively prevent mistakes and substitution of this character.

One effect of such substitution, carried on for a number of years to a larger degree than ever suspected by most architects, is that genuine wrought iron is frequently blamed for the failures of the cheaper pipe material which was substituted.

It should be mentioned that genuine wrought iron pipe of Byers manufacture for years has been plainly marked by rolling the name into the metal, at intervals of only three or four feet. This, we believe, fulfills the requirements of your suggestion of "unobtrusive but characteristic identifying marks." But it proved wholly insufficient, because it required close inspection of every length of pipe, usually after it was installed in inaccessible places. We came to the conclusion that only a form of marking which would hit the architect, owner, or inspector squarely between the eyes, would ever be satisfactory. In other words, the marking had to be so eye-arresting as to be conspicuous by its absence.

After years of experimenting with marking devices, we finally succeeded in perfecting an inexpensive method for painting a spiral stripe in red or other bright color from end to end of every length of pipe. The appearance of pipe is rarely of consequence, for it is either concealed behind walls or partitions, or when exposed in any building other than a factory, is covered with paint of some kind. There would seem to be no objection to the most conspicuous marking of any material which is to be concealed, or is ultimately to be painted or covered in some other manner. Since commencing to mark the pipe in this manner, if a length of pipe, or any quantity of pipe is installed, which does not have the spiral stripe, it will be almost automatically discovered on the most casual inspection by owner, architect or engineer.

Yours very truly,
A. M. BYERS COMPANY,
T. L. Lewis, General Sales Manager.

New York, July 23, 1925.

The article on "Substitution" appearing in your July issue is worthy of serious consideration. "Imitation is the sincerest form of flattery" and the very fact that such imitation is attempted speaks volumes for the high character of the article imitated. When we are told that a substitute is "just as good" as something else we must appreciate how very good that something must be, to be the standard for imitation.

In recent months a certain imported heavy Window Glass has appeared in this market. It is one-quarter inch in thickness and has been glazed, in some instances, as a substitute for Polished Plate Glass. This glass is misleadingly called "Demi-Plate' while, as a matter of fact, it is not Plate Glass in any manner whatsoever. The latter, as is generally known, is ground and polished, by an expensive process, after it is cast or drawn, which produces the unblemished and brilliant surface for which it is noted. This glass is obtainable in thicknesses ranging from ⅛ to 1½ inches. The former (Demi-Plate) is neither ground nor polished. It is merely heavy Window Glass and contains waves, blisters and stones, which are always more or less in evidence in the Window Glass product, but because it is made ¼" thick, which is the thickness of Polished Plate Glass most commonly used, it has been imposed upon the innocent buyer at the same price as the genuine article while its actual value is about one-half.

The substitution of one product for another should be made solely with the buyer's knowledge and consent and after all differences in quality, appearance, etc., have been fully explained. To assume the right of substitution "unbeknownest" to the purchaser is to perpetrate a fraud.

G. OSGOOD ANDREWS,
Eastern Representative.
The Plate Glass Manufacturers of America,
First National Bank Building
Pittsburgh, Pa.

PUBLICATIONS OF INTEREST TO THE SPECIFICATION WRITER.

Celotex Specifications. — A.I.A. Filing Index 37a1. Document with four full page detail drawings and complete specifications covering Celotex Insulating Lumber for all uses including wall sheathing, roof insulation, plaster base, interior and exterior finish, floor deadener, floor insulation, and for application of wall paper, Sanitas or canvas. Standard filing size. The Celotex Company, Dept. 209, 345 No. Michigan Ave., Chicago.

Wrought Iron of Distinction.—Portfolio of 42 plates showing many pen and ink drawings and photographic reproductions of lighting fixtures, lanterns, candle sticks, hardware, weather vanes, fire sets, etc. The Florentine Craftsmen. 45 East 22nd St., New York City.

Hydrex Specifications.—Documents covering built up roofs, sound deadening and insulation, sheathing, dampproofing for walls, etc. Standard filing size. Hydrex Asphalt Products Corporation, 120 Liberty St., New York City.

Slate for the Roof.—Handsome brochure with many plates in full colors. Specifications, photographs of finished jobs, etc. Standard filing size. Vendor Slate Company, Inc., Easton, Pa.

Laboratory and Vocational Furniture for Schools.—Catalog No. 21. Illustrates and describes complete line of equipment for the modern laboratory. 104 pp. 8½ x 11. E. H. Sheldon & Co., Muskegon, Mich.

Waterproofing Specifications.—Portfolio of specifications covering waterproofing, dampproofing and a complete line of technical paints. Standard filing size. A. C. Horn Company, Long Island City, N. Y.

The Fireproofing Handbook.—8th Edition. As its name implies this work covers a wide range of fireproofing materials, their uses and application. Specifications, detail drawings, tables, types of construction, etc. 72 pp. 8½ x 11. The General Fireproofing Company, Youngstown, Ohio.

Published by the same firm: The Waterproofing Handbook, 6th Edition. Companion volume to the above covering all phases of waterproofing, technical paints, wood preservation, etc. 72 pp. 8½ x 11.

Pumps for Buildings.—New Catalog No. H-301. Covers subject indicated for the information of architects, engineers and specification writers. All suitable types of pumps are described together with their capacities for all building uses. 48 pp. 8½ x 11. Fairbanks, Morse & Co., 900 So. Wabash Ave., Chicago.

Waterproofing Specifications.—This document covers all types of waterproofing as applied to building construction, in convenient form for the specification writer. There is also a section on technical paints and enamels. 56 pp. 8½ x 11. Toch Bros., Inc. 110 East 42nd St., New York City.

Portfolio of Mantel Designs.—Photographic reproductions of 20 mantels suitable for various uses. Post card size. Georgian Mantel Co., 15 East 40th St., New York City.

ANSWERS

(*Continued from page 96-a*)

the second generation of the latter without loss of racial pride.

And we must bear in mind too that, with the Southern, are also shut out our British, Scandinavian and other North European cousins from among whom we formerly recruited the majority of our skilled building mechanics. It is in place of these that the negro has migrated into our smaller northern cities where but few of the Latin races would be attracted.

And, in some months, the number of the laboring element leaving our shores is greater than that coming in!

All this sounds far from germane to the subject under discussion but it is essential, if one is to attempt to judge the effect of supply and demand on any particular phase of employment, that one should appreciate the far-reaching consequences of public policy pertaining thereto.

Thus is our national stand as to immigration directly responsible to a considerable degree for the advance in cost of all we buy, the while it has not helped in any degree the income of the average professional man or shop keeper.

Since this be true, it is probably also true that, with a continuation of this present immigration policy, it will take at least a generation for a readjustment of the wage scales of brain and brawn workers unless, as many economists think, we are on the verge of a financial depression being brought about by the inability of the farmer, the miner and the manufacturer to find sufficient and remunerative demand for their products.

Such a condition would have an immediate effect on building construction, as has already been the case in the Northwest, and would materially lower all building costs. Where the professional man would find himself in the resultant readjustment is hard to prophesy, but it is safe to say that he will be no worse off than at present.

All of which is but to preface a constructive suggestion which the writer wishes to offer to those architects and draftsmen who, jointly, are working for the greatest good of their profession. I fear that there is little to be hoped from those architects who, in "pride of place", consider themselves in distinctly different class from their employees, using the latter only as so many cogs in the wheels of their success. It would be interesting to see one of these "heads of the profession" set about finding a remunerative job in the office of one of his competitors.

But, from those more-or-less-unselfish individuals who delight in seeing others get ahead and take real pleasure in being factors in such success, there is hope for the draftsman who is conscientious and industrious and possessed also of those other attributes which make him a desirable employee: education, training, interest, quick insight, rapid, workmanship, versatility, dependability and, last (but by no means least), loyalty.

If you, as a draftsman, have not all of these, it is quite needless for you to look further for the cause of your lack of progress. Possessing each of them to a fair degree, you are probably doing well "as is", even though you may be justified in wanting to do much better. Should the foreman of a fair-sized drafting-room be satisfied with $100.00 a week, or a capable superintendent with $80.00 per, when one of the plasterers on the job, by means of a little overtime, can draw $137.50? Perhaps, but I, for one, don't blame him if he isn't.

If you are the kind of a draftsman who, without much native ability, took any one of the many short-cuts in education in order to save the arduous acquisition of the fundamentals, there is not much to be said for you except that you had best go back somewhere and complete your education before continuing your complaint.

In any event, don't be guilty of that most despicable of job-getting methods, under-bidding the other fellow. How diminutive must be the self-esteem of that employee in the knowledge of having stolen his situation from someone else as good or better, simply by the process of accepting a smaller salary!

On the other hand, how contemptible is that selfishness which induces professional employers (supposedly ethical) to agree not to tempt men from each other by the offer of higher wages! It is one of the few legitimate excuses for workers' unions. There should be nothing to interfere with a man's privilege of securing the most for his services that the market will bring. Corolary: Every man should prove himself a candidate for a higher salary by striving to deliver to his employer a greater value than is being paid him.

Now, let us assume in an average office, a majority of employees who wish to better themselves and the office output, also to fortify themselves to some extent against that inevitable day when either the payroll must be trimmed or the office cease to function.

Such organization is at present working thirty-eight to forty hours a week, with all holidays off, also a two-weeks' annual vacation for all employees of a year's standing or longer. And, by the way, these holidays and vacations would prove a terrific drain on the overhead of any concern whose salary schedule were not so adjusted as to have the salaries absorb the resultant deductions. That is likewise inevitable. Again, "you can't eat your cake and have it too".

Let a majority of these employees with their employers get together on a platform of greater efficiency, increased flexibility and improved office loyalty. These betterments can be brought about by various means.

First, let us change the pay to an hourly basis by averaging it upon the actual number of hours in the year against the year's pay in order that both employer and employee may quit "kidding themselves" as to who pays for lost time.

Then, in normal times, change the working day to begin at eight in the morning, allowing its afternoon duration to vary with the amount of work on hand, but eliminating evening overtime, if possible. In the summer, if work on hand permits, cut out all Saturdays before reducing the number of hours on other days. By working eight hours a day, each man would still put in as many hours a week as the present schedule, be remunerated accordingly and yet have Saturdays free.

If work piled up, the afternoons could be extended an hour and, if that did not suffice, Saturdays be used also. This flexibility would reduce the number of transients in an office and increase its efficiency, not only by cutting down the "turnover" but by increasing the percentage of application of the individual. We all know that the idea that a real man can't do his best during nine hours a day for six days a week is "poppy-cock". He can, if he cares to, unless his work is drudgery or the remuneration unattractive.

Then, in order that congestion in the work of the office be not invited, let us shun all unpaid competitions and preliminaries, also all other competitions at times when work is plentiful or when the particular office has been found to lose more than fifty per cent of such efforts.

Further, let the office give special consideration to those of its employees who can bring in new business, awarding to all such a percentage of the *gross* receipts from same; perhaps let the second of such commissions win a name on the drawings and a place on the front door. This should cut to a minimum the temptation of employees to eke out their stipends by working for others in their spare time and should correspondingly increase their sense of loyalty to their employers.

Finally, there are two pleasing alternatives in lieu of paid holidays and vacations. One is the regular payment to older employees of annual bonuses, based upon the year's profits, and to be paid as earned increments, not a present. The other is the creation of a sick-leave and vacation fund to which each employee contributes a small amount of his weekly salary and from which he can draw half-pay while on vacation or absent on account of sickness.

I doubt if there is anything new in any of the foregoing but it is possible that the presentation at this time, in view of the discussion that has been carried on, may be of use to someone who is looking for a way-out and will appreciate such suggestions in concrete form. I trust that some of these will find means of bettering their conditions.

For those of another and younger class who choose to accept small salaries for the "privilege" of working in certain offices on account of the prestige to be thus obtained, let it be said that such "prestige" is an absolute myth and they had far better take a higher salary in a less-known organization where they can progress more rapidly and be in closer touch with their employers meanwhile. The next employer cares little for whom such a one has worked, provided only that he has real ability.

But, for that other class of youngsters in the game who are simply looking for an easy way of making a comfortable living, my advice is to get out of architecture and become a walking-delegate or boot-legger or something else equally honest and remunerative.

PARTICEPS CRIMINIS.

HAVING failed most dismally in our cunning scheme to get somebody else to do the heavy work in carrying on this department, we have decided to put the whole proposition on a paying basis. We don't see how it can be made to pay Ye Editor as he doesn't get a cent extra for doing this job, and we don't see how it can be made to pay the magazine; so the only thing left, as we analyze the situation, is to make it pay the contributors and the readers.

So here's what we're going to do. We are going to offer prizes according to the following specifications. There will be four monthly prizes of ten dollars each, to be awarded as follows:

Prize No. 1 for the most interesting sketch received each month. No conditions as to subject or medium used. Sketches may be of any size and done in any manner pleasing to the sketcher.

Prize No. 2 will be awarded to the most interesting verse. It may be a couplet, or a triolet; a limerick, an ode, or a dithyramb; it may be blank verse or free verse, or doggerel or anything whatever that has capitals at the beginning of each line. It may deal with architecture or astronomy or anything else.

Prize No. 3 will be awarded to the best cartoon or caricature. No conditions as to subject or treatment. In awarding this prize greater weight will be given to the originality and cleverness of the idea, rather than to the technique or draftsmanship.

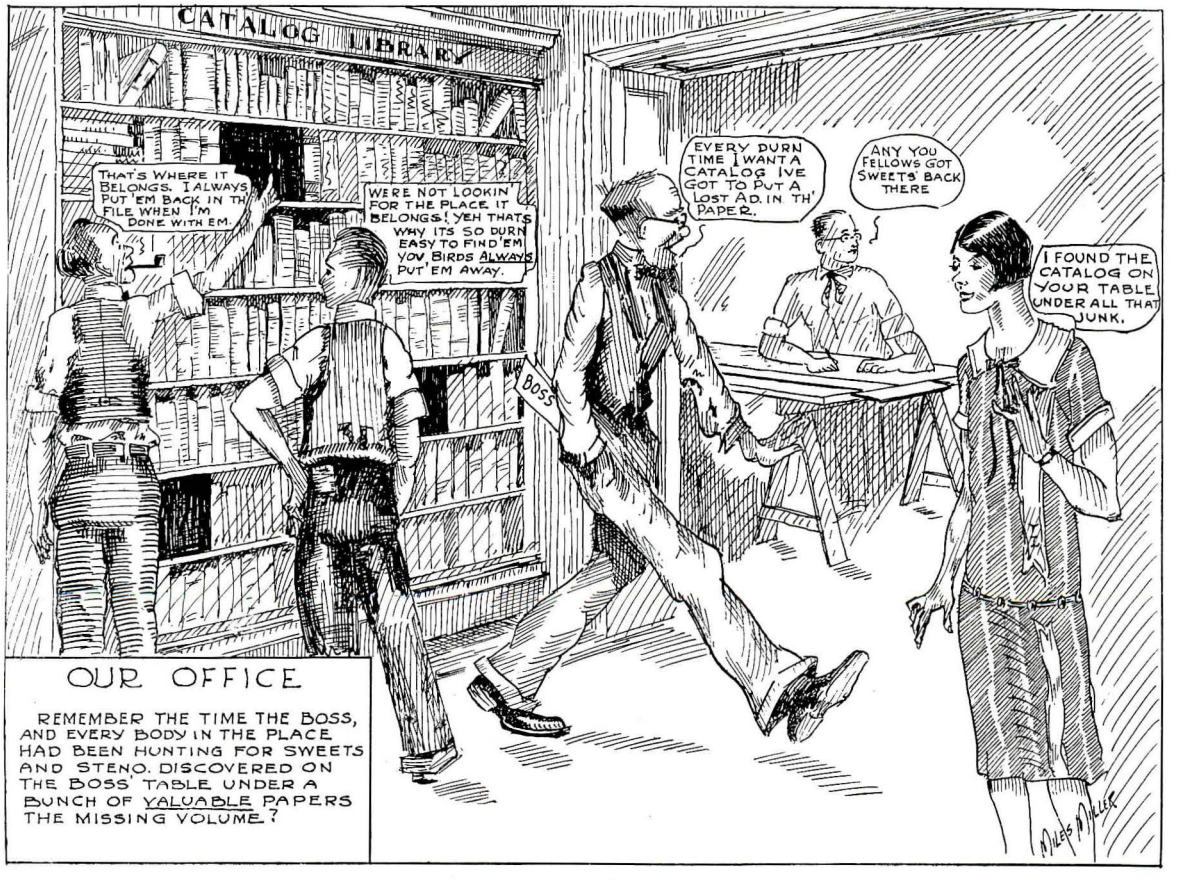
Prize No. 4 will be awarded to the most interesting item received each month not falling within any of the above mentioned classifications. It may be an ancedote or a witticism, or anything else which would find proper place in this column, and we are to be the sole judge of what is proper.

This stupendous contest starts with the month running from September the fifteenth to October the fifteenth. All contributions received between these dates will be considered for the prizes, whether they are actually selected for publication in the November issue or held for later use. The same dates will be observed for subsequent judgments; that is, the second series of prizes will be awarded for contributions received between November fifteenth and December fifteenth, and so on until further notice.

All drawings, whether awarded prizes or not, will be promptly returned to the contestants.

Anyone may enter as many items as he wishes for one or more months, whether he be a subscriber for PENCIL POINTS or not; and contributions from foreign countries are quite as welcome as the domestic product.

Mark all contributions with the name of this department and make sure that in all cases the name of the contributor appears both on the wrapper and inside the package.



"Our Office," by Miles Miller, Dayton, Ohio.

And here's a little contribution from our old friend, Oong Gow:—

ARCHITECT'S LULLABY.
AFTER THE BOOK OF DIVERSION.
PEOPLE WHO PUT YOU TO SLEEP.
(As if anybody cared).

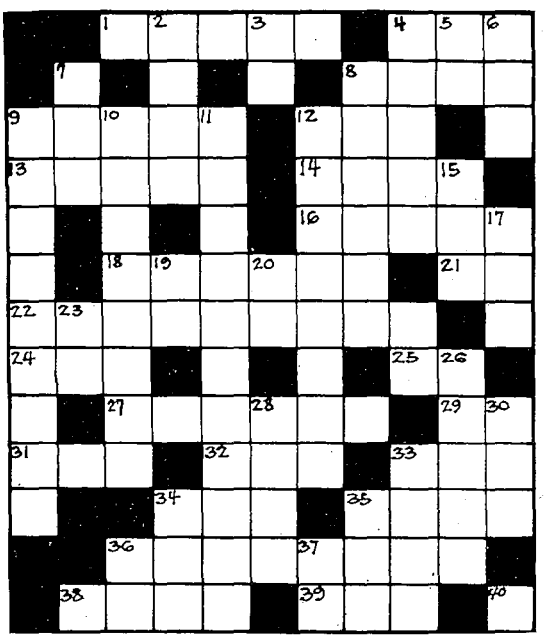
If, at night, you fail to slumber,
Count your "prospects" without number.
If you still continue wakeful,
Count the "stops" to make a lakeful.
Then, if your mind at random ranges,
Count the gooks who speak of *changes.*
And, if slumbers still repel you,
Count those who *change* but never tell you.

OONG GOW.

Messrs. Lord and Taylor, Centennial Contest Department, Fifth Ave., New York, are offering prizes aggregating $3,000.00 for designs for a symbol. The first prize is $1,000.00. The competition closes October 15th, 1925. Comprehensive circular giving specifications and full details may be secured free on request.

And George H. Lathrop, of Rochester, N. Y., who is an electrical contractor, says, "Why does the architect locate on his drawings three switches where there isn't space for one. And why do they insist upon changing the base and trim of a door after the wiring and plastering has been completed?" And he further suggests that on all wiring plans and details of base and trim, all medicine cabinet sizes, etc., be included. We pass this on for what it is worth.

THE office of Messrs. Smith, Hinchman & Grylls, of Detroit, held a grand blow-out and party a little while ago, at which we are assured a good time was had by all. As one of the sporting events connected with the occasion an entirely original cross word puzzle was a feature. Here's the puzzle and on page 89 will be found the solution thereof. Lack of space only prevents us from reproducing other interesting documents which were produced by the office force to mark the event.



Original Cross Word Puzzle sent to us from the office of Smith, Hinchman & Grylls, Detroit, Mich.

HORIZONTAL

1. Has four legs and smooth top.
4. Result of old age.
8. In great demand on the 15th and received on the 18th.
9. Common to cigars and goats.
12. Yowls on the back fence or keeps company with Dick and Harry.
13. Found around doors and windows.
14. Brot out by the snow.
16. Stones used at the corners of buildings.
18. A member of the clean-up squad.
21. Part wet and part dry (abbrev.)
22. In between.
24. V. S. architects (Abbrev.)
25. Nickname of a jolly architect.
27. What we all wish our pay checks were.
29. Abbrev. for Hawkeye State.
31. Raw stuff.
32. First word of song that made bananas popular—means the same as "this is so sudden."
33. The first half of %.
34. Condition of draftsmen on a nice day.
35. Often yellow when found on blue-prints.
36. They move in columns and were popular in 1918.
38. Used by draftsmen and pigs.
39. Disappears under rubber.

VERTICAL

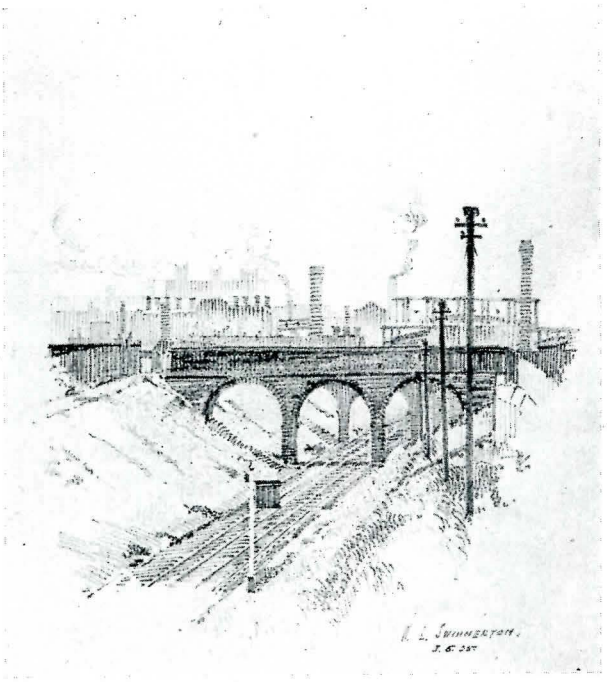
2. Against everything, especially work.
3. Abbrev. for Southern State—not Mo.
4. The climbing sheik of yesterday.
5. Yiddish exclamation.
6. High explosive recommended for getting immediate action.
7. Goes with bolts—and is buried for winter use.
8. A means of support.
9. He never has to get his own breakfast.
10. Found in divorce courts and drafting rooms.
11. Beginning and end.
12. Should be true but generally bows.
15. Loud, noise—the office at 8:15 A. M.
17. Found on rugs and taken on the quiet.
19. Secretary of S. H. & G. (Initials).
20. Reward of merit (Abbrev.)
23. Two-thirds of a roadhouse.
26. Rows and rows.
28. Money in Germany.
30. The first houseboat.
33. The bums' hotel.
34. No cross-word puzzle is complete without this.
35. Two legged animals.
36. 135° east of north.
37. Once over.
40. Well, well.

D. W. May, 3918 Fairfield Ave., Fort Wayne, Indiana, has duplicates of the following issues of PENCIL POINTS which he offers for sale: September and October, 1922; January, February, March, April, May, June, July and August, 1923.

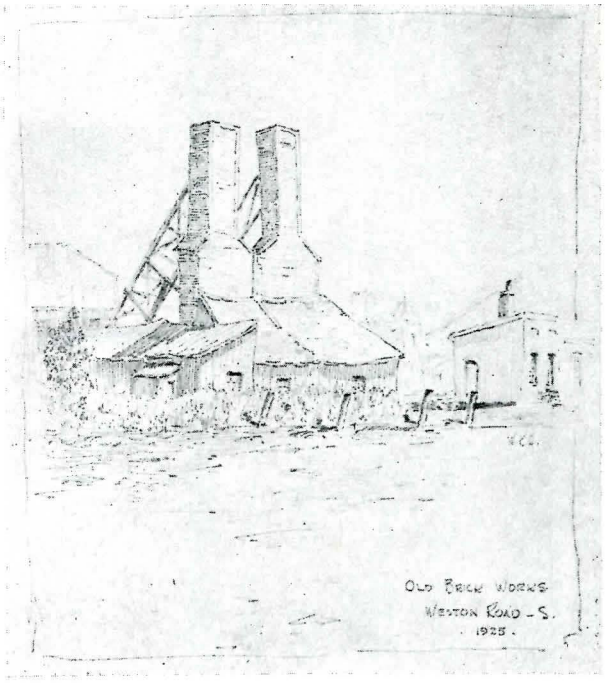
Luis Canedo Gerard, Apartado No. 4 Bis, Mexico City, Mexico, requires copies of PENCIL POINTS for November, 1924, and March, 1925, to complete his files.

A. C. Neville, 137 Marlboro St., Wollaston, Mass., has a complete file of PENCIL POINTS copies from the first issue to and including the August, 1925 number, which he will sell.

Fred J. Woodward, Architect, 1423 Harvard St., Washington, D. C., has thirty-five numbers of the series of White Pine Monographs which he offers for sale at 25c each.

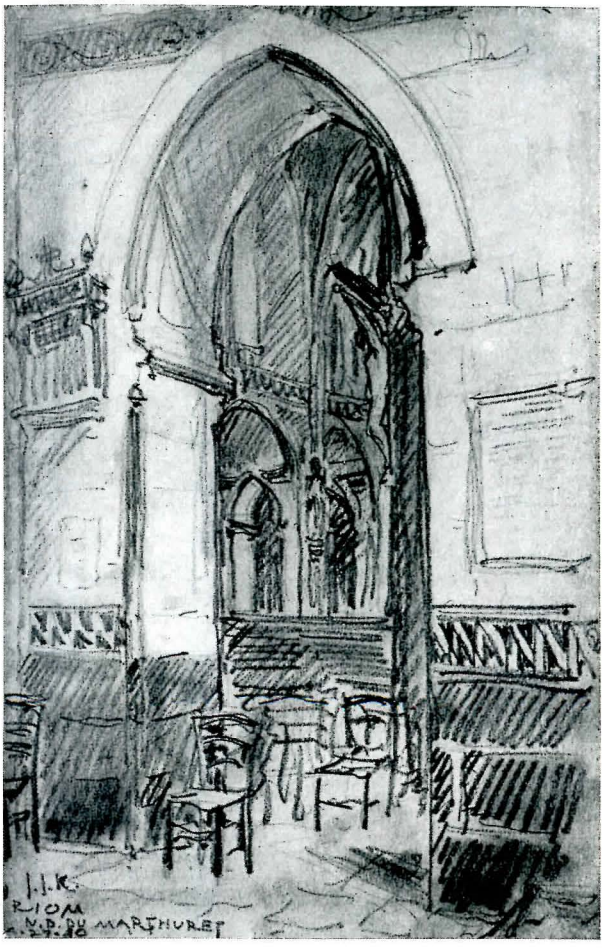


Pencil Sketch by W. L. Swinnerton, Liverpool, England.

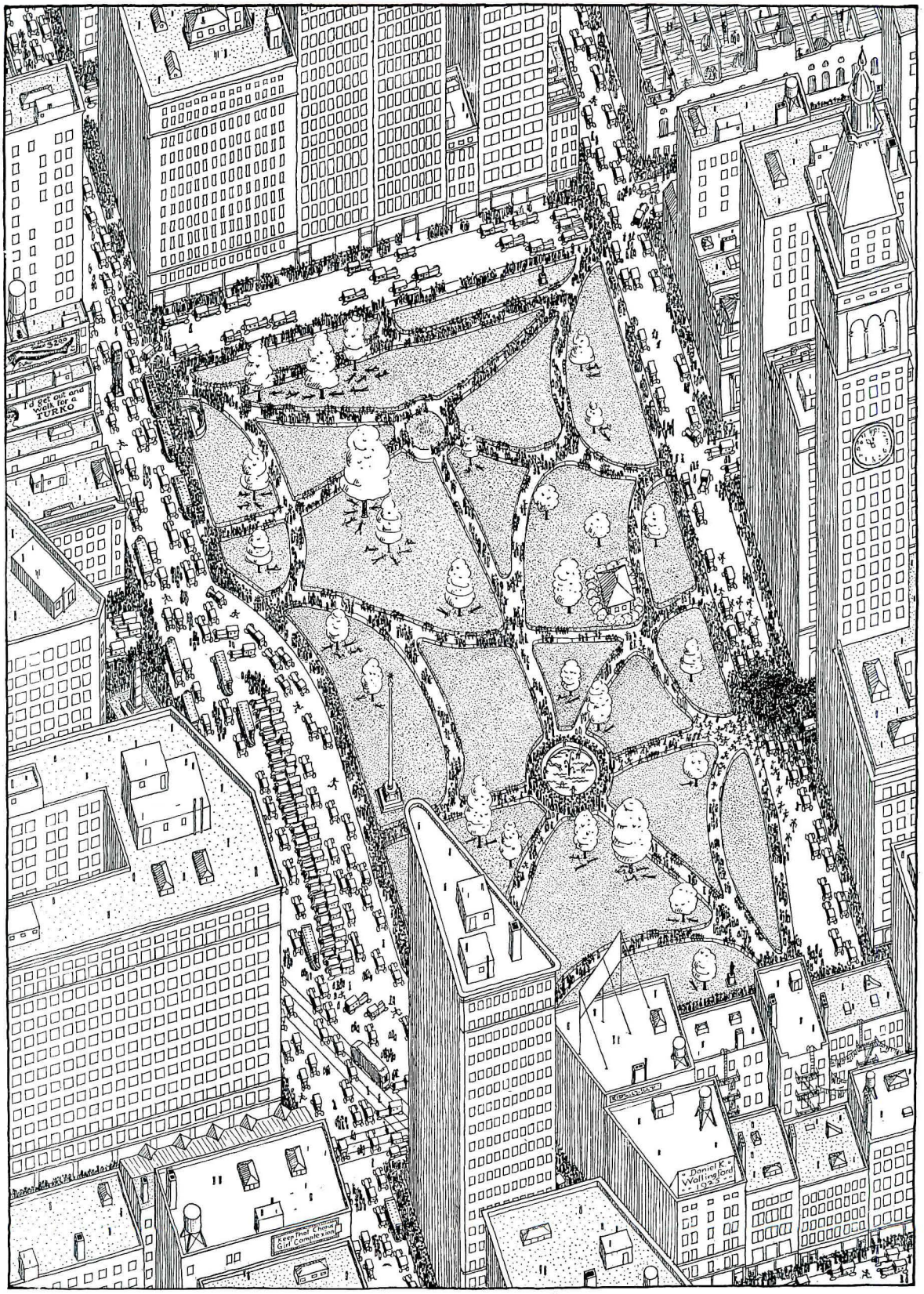


Pencil Sketch by W. K. Aykroyd, Toronto

Pencil Sketch by Albert Gracser, New York



Sketch by John J. Klaber, Notre Dame du Marthuret, Riom, France



Picture made by our staff photographer showing Madison Square on a midsummer's day, with "everybody" out of town. Crowd at right of picture shows group of exasperated architects and draftsmen trying to get into our office to subscribe for Pencil Points.

THE SPECIFICATION DESK

A Department for Specification Writers

SPECIFICATIONS

By W. W. Beach

PART XI.

Concrete Work—*Continued.*

THE specifications for a Consolidated District School, upon which we are engaged, were carried, in Part X in the August issue, part way into Division C, Concrete Work. It will be noted that, in these specifications, certain waterproofing and dampproofing are included. A word here on this subject will not be out of place.

Whether or not the dampproofing of a basement or the waterproofing of its walls are needed must always be subject of special consideration, as must likewise be the question of the amount or completeness of either. In a few soils one can, in building basements of moderate depth, be assured of their continual dryness without any special precautions to keep them so.

At the time of securing his preliminary data on the site of any building, the architect should always, when ascertaining in a general way the probable bearing capacity of the subsoil, find out also how much moisture it carries during the various seasons. If possible, he should learn too whether or not such moisture, at the level of his future basement, is likely to have pressure back of it.

A soil quite capable of carrying a load of from 3,000 to 5,000 pounds per square foot may be either wet or dry or both, intermittently. If hardpan be well down below the depth intended to go and the subsoil be yellow-clay or contains much sand or gravel, it is probable that rain-water percolates straight down, without lateral pressure. But, if there be blue-clay, gumbo or other impervious layers, one may encounter considerable pressure behind the soil moisture, may even find springs. On this account, an architect should supplement his observations at the site by finding out what the local experts have to say about it.

Of course, if the job is of much size, he will have borings made and test-holes dug and derive some information thus, but, while these will afford knowledge of use in designing footings, they will tell him less about conditions of moisture, because the latter vary to such an extent throughout the year.

Having, however, reached a conclusion that a certain degree of waterproofing must be provided, one can still wait until the excavating is under way before determining how much. Real waterproofing is expensive and should not be specified in any offhand manner. The following are various methods in common use, any one or all of which can be followed, dependent upon what appears to be expedient.

(A) INTEGRAL WATERPROOFING. Our specification (Par. C of Art. 2, Div. C) calls for all walls below grade to be rendered "impervious" by an admixture of 8% of hydrated lime or other approved integral waterproofing. The reason for incorporating this in all walls, instead of only in outside walls, is that if water lies in the ground around a building in certain seasons of the year in any considerable quantity, it has a tendency to find its way, through the action of capilarity, up through the footings of interior walls as well as exterior, frequently causing serious damage to plaster and decorating in basements and, sometimes, on up into the story above.

(B) PARGING. Outside walls can be painted with hot pitch or asphalt or any of several waterproof paints on the market. The important features in their application are that they be applied to clean surfaces and that every portion of all surfaces is covered. To this end, specifications should state that the work shall be in two coats or that it shall be gone over a second time and all scant spots retouched. The footings should be left uncovered so that the coating can be carried well down on same. This work should also be carried up to under-side of base-course, be same stone, terra cotta, concrete or brick. But here is the weak point in this waterproofing: it cannot be carried up on the face of the base-course as far as the sod is liable to lie, hence surface water will have a tendency to find its way through the joint under base-course. If the paint can be carried through the joints under and behind the base-course, well and good.

(C) DAMP-COURSE. It appears sufficient, at times, to merely guard against the "suction" of moisture through foundation walls up into those above by introducing a damp-course of one or two thicknesses of tarred felt or composition roofing material. This should extend unbroken through the wall and project about 2" beyond both faces, and should be well lapped at all joinings.

(D) MEMBRANE WATERPROOFING. To guard against water under pressure, either in walls or floors, nothing can be quite as effective as properly designed membrane waterproofing built into the walls in layers between coatings of tar-pitch or asphalt of proper consistency. This should be absolutely continuous throughout all surfaces, with all corners rounded and reinforced with specially prepared fabric. Our discussion is not a treatise on this subject, hence further detail will be left to the many excellent texts available.

(E) SUB-SURFACE DRAINAGE. Paragraphs A and B of Article 6, Division B, provide for the inspection of the area around foundation walls before backfilling is done. This gives opportunity for the architect to determine the need of protecting against water from rain-fall by the installation of open-joint farm drain-tile laid, with slight incline, along outside of footings and extending to a sump or sumps from which water can be conducted or pumped into an open drain or a storm water sewer, if available. Judiciously schemed, such a layout can be made to take the place of a system of membrane waterproofing—and at a fraction of the cost of the latter.

(F) APPLIED WATERPROOFING. Fortunately, as a last resort, if it be found that more efficacious waterproofing is needed than one's economical program has provided, recourse can be had to the form of waterproofing sometimes known as "internal". This is effected by discovering the courses of all seepages, cutting them out, directing the flows into tubes, plugging the tubes and then coating the walls with special waterproof plaster. This too is fit subject for more elaborate treatise.

We will suppose that the subject of waterproofing as relates to our consolidated district school building is of sufficiently known quantity to warrant incorporating these schemes into our specifications: (1) an integral mix of 8% of lime in the walls, (2) parging on the outside and (3) the insertion of a damp-course in all basement walls. Then, if these precautions don't serve, we will assume that a thorough investigation should be made before deciding upon something more positive—and more expensive.

Proceeding then from where we left off at the close of Part X, on the subject of Materials of Concrete, Division C:

ART. 6. *DAMPPROOFING.*

(A) DELIVERY of all dampproofing materials shall be in unbroken original packages bearing the maker's labels.

(B) FOR WATERPROOFING. Tar-pitch shall be best, straight-run, coal-tar-pitch of specific gravity not less than 1.23 at 60° F, melting point not less than 130° F, nor more than 140° F, and evaporation not greater than 8⅓% after 7 hours heating at 275° F. Asphalt equivalent to the foregoing or proprietary material of equal merit may be substituted for the tar-pitch if first approved by the Architect.

(C) TARRED FELT shall be approved tar-saturated felt weighing not less than 14 lbs. per 100 sq. ft. For dampproofing, approved ½-ply ready roofing may be substituted for the tarred felt.

WORKMANSHIP

ART. 7. *PROPORTIONING, MIXING AND PLACING.*

(A) INSPECTION. No concrete mixing mav be started without due notice to the Superintendent and opportunity given him to inspect the work from its beginning and to observe the surfaces to be covered. Such surfaces shall be clean and free from rubbish, washed, scraped and grouted, if so directed by the Superintendent.

(B) PROPORTIONS OF MIX of concrete shall be 1:2½:5 for base floors laid on cinders and for other mass concrete. For other work, including all concrete containing reinforcement, the proportion shall be as indicated on drawings or, if not so given, shall be 1:2:4. In order to secure a mixture of the greatest density, the Architect may order necessary changes in proportion of the aggregates, the percentage of cement to sand remaining as originally prescribed.

(C) MEASURING. A systematic method shall be em-

ployed to insure the correct mixture of each batch. Measuring by shovel is prohibited. Measurement of coarse and fine aggregate and cement shall be by loose volume of which the unit shall be a bag of cement weighing 94 lbs. net and assumed to be equivalent of one cu. ft.

(D) PROTECTION. Concrete poured in warm weather shall be kept thoroughly wet after initial set and for at least 48 hours after pouring. For all concreting carried on during freezing weather, such special precautions shall be taken as will obviate all danger of injury by frost. Only boiling water and heated aggregates shall be used. Frost shall be drawn from all surfaces with which fresh-laid concrete is to come in contact, by blowing with live steam or drenching with boiling water, or both. An adequate enclosure heated by continually-fired salamanders shall be maintained for the protection of such work after pouring and same shall also be covered, while fresh, with straw and tarpaulins. No concrete may be poured, except by special permission, on days when the temperature at 9 a. m. is less than 25° above zero, F.

(E) MIXING. All concrete shall be mixed in rotating batch-mixers, except that, under special conditions, the Superintendent may permit small batches to be mixed by hand. Under either method, the materials shall first be thoroughly mixed dry, then the proper amount of water added as indicated by the slump-test. A competent Foreman shall be in constant attendance at each mixer to see to the correct proportioning and mixing of every batch produced. Mixing drums shall operate at a uniform speed of 200 ft. per minute and for a minimum of 1½ minutes after water has been added. except that mixers of 2 or more cu. yards capacity shall be operated for a minimum of 2 minutes after water has been added. Machine and hoppers shall be thoroughly cleaned before being allowed to stand idle. If tower is used for distributing, the spouting shall be at proper incline to insure continuous and even flow of both aggregates and liquid.

(F) SLUMP-TEST. The Contractor shall provide a conical form of No. 20 guage galvanized iron for making slump-tests; also a ⅝" pointed metal rod 21" long. The form shall be 4" in diameter at top, 8" at bottom and 12" high. Tests shall be made by the Contractor once or twice daily as directed by the Superintendent. Percentage of water in concrete shall not be in excess of that to produce the following maximum slumps:

For mass concrete .....2"
For concrete columns .....6"
For reinforced slabs .....8"
For base of floors and walks on earth .....4"
For finishing coat .....2"

(G) PLACING. Concrete shall be conveyed to points of delivery in watertight carriers and deposited as nearly as possible in final position immediately after mixing and within 30 minutes after water has been added to the cement and sand. Re-tempering or unnecessary re-working of concrete will not be permitted and any concrete placed or moved after the 30 minutes will be rejected and shall be removed from the premises. Pouring shall be continuous from working-joint to working-joint. Over-time labor shall be provided for this purpose without charge when such continuity cannot be otherwise secured.

(H) JOINTING. The position of working-joints shall be as approved by the Superintendent and shall be rigidly adhered to. In plain or mass concrete, working-joints shall be left rough and, before placing new concrete, all surfaces which have set shall have all soft or loose material removed and be brushed clean, drenched and covered with a $\frac{1}{16}$" layer of neat Portland cement. Where piers or walls are 16" or more in thickness, wood blocks 4" x 4" x 18" shall be bedded in the concrete every 4' 0" when leaving off pouring. Blocks shall be laid along center line of surface for removal before pouring additional concrete, thus forming dowels. Each pier shall have at least one such dowel, reduced in length, if necessary, so as not to be closer than 8" to any face of pier.

(I) COLUMNS shall be poured continuously from their bottoms to underside of girders or column-heads, but no faster than will permit careful rodding of each portion deposited.

(J) BEAMS AND SLABS over columns shall be poured about 30 minutes after tops of columns supporting same. Slabs shall be poured continuously with beams and girders underneath.

ART. 8. *CONCRETE SLABS.*

(A) CLASSIFICATION of concrete floors shall be as follows:

(1) TYPE A, Concrete floors forming base slabs under terrazzo, vitreous tile and marble.
(2) TYPE B: Interior concrete floors with cement mortar finish.
(3) TYPE C: Exterior walks, platforms and steps.
(4) TYPE D: Roof slabs.

(B) TYPE A FLOORS shall be floated and left at proper level to receive bedding or fill, 3" below finished surface for terrazzo and 1¼" for marble and vitreous tile.

(C) TYPE B AND C FLOORS, WALKS, PLATFORMS AND STEPS. For interior work, topping shall be ½" thick, of 1:2 Portland cement and sand mortar; for exterior walks, 1" thick of the same; for outside steps and platforms, 1" of 1:1:1 mortar of cement, sand and No. 4 granite screenings, free from dust. Surfacing shall follow immediately after the laying of structural or base slab and shall be worked with a wood float, then steel-troweled before initial set of the cement. Surface shall be lined into blocks, when so directed, and proper provision made for expansion. Use of dry cement for absorbing surface water will not be permitted. Unless otherwise specified, all base slabs laid on cinders over earth shall be 4" thick, except in storerooms, closets and air-ducts, where thickness shall be 3".

(D) ROOF SLABS, TYPE D, shall be constructed as specified for type B, except that topping shall be a ¼" leveling coat. Roof slab of coal room shall have a 1" topping as specified for type C.

(E) CINDER FILL shall be laid under all type B and C work resting on earth, unless the subsoil is found to be a good quality of sand or gravel which, in the opinion of the Architect, is a fit substitute for the cinders. The earth shall first be tamped hard at proper planes and cleaned of all rubbish before cinders are deposited. Cinders shall be 6" deep and properly tamped just before concrete is laid.

(F) CINDER CONCRETE shall be filled in between all wood sleepers under wood floors, where called for. It shall be 1:2:6 mix and shall be struck off level ¼" below top of wood sleepers. Inclines and watersheds of cinder concrete shall be built on roof slab where called for or where necessary to prevent accumulation of moisture.

(G) CONCRETE BASE shall be built in connection with all type B floors, unless otherwise stated. Base shall be 5" high and full thickness of plaster and flush with same in store rooms and closets. Elsewhere it shall project to finish, flush with screed placed by Plasterer. All base shall be laid over an 8" strip of approved metal lath bent into angles and secured to walls and floor. Exposed upper corners and returns at doors shall be rounded to a ⅛" radius. Angles at floor shall finish with cove of ¾" radius.

(H) CONCRETE STAIRS, steps, strings, haunches, pedestals, benches for lockers and cases and foundations for equipment shall be built as detailed, in proper forms, all of 1:2:4 mix, with finish as specified for type B floors. Cores of benches for lockers and cases shall be sections of best-quality burned-clay wall tile. Equipment foundations shall have all anchors built in, as furnished by Parties providing equipment and machinery and in accordance with their directions and templates.

(I) IN GENERAL, all floors shall be perfectly level or shall incline to drains or planes of ramps, as indicated. All exposed corners shall be true and sharp or evenly rounded as required. Soon after initial set, all exposed work shall be thoroughly drenched and kept wet for 24 hours (48 hours in hot weather) and carefully protected until hard.

ART. 9. *PLACING REINFORCEMENT, ETC.*

(A) REINFORCING MATERIAL, either straight or accurately bent in conformity with approved drawings, shall be correctly placed (on chairs, if required), rigidly wired together at all intersections and carefully maintained in exact position and clearance, both horizontally and vertically. A competent mechanic (more, if necessary) shall be exclusively and continuously employed, before and during pouring, in the correcting and replacing of reinforcement and other members to be embedded, which may have become displaced, and shall keep just ahead of the pouring. Temperature bars shall be provided in all reinforced work and, where not specifically shown, shall be ¼" round, 12" o. c., placed at right angles to main reinforcement and wired to cross-

members of same size, 2′ 0″ o. c. Reinforcing bars, where spliced, shall lap a distance equal to 60 diameters of the bars.

(B) BUILT-IN MEMBERS. All nosings, guards, curb-angles, anchors, cast iron door and hole frames and similar members, delivered by others to the Contractor under this Division, shall be placed in forms by him under direction of the Superintendent or as shown by drawings. Included in this are the anchors or clips for floor and roof-sheathing strips. These shall be 12″ and 16″ o. c., respectively, one way, by 3′ 0″ in opposite direction, as ordered. Sleeves or other forms, required for all mechanical trades, will be provided and placed by Contractors under those Divisions. This Contractor shall afford all cooperation in connection with same and shall use all necessary protection for such members until embedded. Just before pouring, all sleeves shall be filled with sand or other material, to keep out concrete. After concrete is set, all wood boxes inserted for pipe openings shall be removed and, after all piping and conduit is in place, the holes around same shall be filled, pointed and finished with cement mortar. Clips for furring rods in under side of second and third floor beams, and furring hangers from roof beams will be provided and set under Division L and the Plasterer shall be given 48 hours notice when the forms are ready for same.

ART. 10. *FORMS.*

(A) IN GENERAL. The Contractor shall provide all required wood or other forms needed for the proper execution of all concrete work, plain and reinforced, and supplied in sufficient quantity so that the work can be prosecuted with despatch. Removable steel forms of No. 16 guage metal, of approved design, may be used in place of wood for floor and roof slabs, at option of Contractor.

(B) STRENGTH of all forms shall be sufficient to carry the dead load of materials and construction operations without deflection or vibration. They shall be so braced as to be rigid under trucking and other action incidental to building. They shall be so designed as to be capable of needed adjustments, shall be carefully watched as work proceeds and all faults promptly corrected.

(C) SMOOTHNESS. Surfaces of forms in contact with concrete shall be of dressed lumber with tight joints, so built as to furnish, after removal, a true, smooth-finished concrete. Members and surfaces shall be straight and true to line; walls, columns and piers absolutely perpendicular; and all horizontal members free from slightest sag. Perfect finish will not be required of those surfaces exposed in basement or in ducts or those elsewhere which are to be concealed by subsequent construction. All such surfaces shall, however, be true to planes and profiles detailed.

(D) INSPECTION. Ample opportunity shall be given the Superintendent to examine all forms just before concrete is poured. They shall then be thoroughly clean, free from shavings, dirt or other rubbish, and shall be thoroughly drenched. Forms for vertical construction shall have openings at bottom, until ready for pouring, to permit removal of rubbish and dirt.

(E) WRECKING OF FORMS shall not be started for 7 days after pouring concrete and none shall be done until the Superintendent gives consent and then only at sole risk of Contractor. After wrecking, sufficient struts shall remain to insure rigidity until final set.

ART. 11. *TESTING.*

(A) TWO TESTS of reinforced floor construction shall be made by the Contractor at his expense under direction of the Architect. Tests must show that the construction will sustain a load equal to twice the sum of live and dead loads, without failure or excessive deflection. The construction may be considered part of test load. Each test load shall cover an area equal to length of span by 10′ 0″ wide and shall remain in place 24 hours. Total deflection under full test load at expiration of 24 hours shall not exceed 1/800 of the span.

(B) ADDITIONAL TESTS shall also be made by the Contractor at his expense in same manner as above, each time that a test shows failure of a slab to meet the requirements.

(C) REPLACEMENT. Whenever a test develops defects in a slab, such slab shall be completely removed and replaced with proper material, correctly installed and capable of meeting test requirements. All such removal and replacement and subsequent testing shall be at the expense of the Contractor.

ART. 12. *WATERPROOFING.*

(A) INTEGRAL. As specified in Par. C. of Art. 2, all footings and basement concrete, except that in columns, shall be rendered waterproof by the admixture of 8% of hydrated lime or other material for the purpose, approved by the Architect.

(B) ON EXTERIOR WALLS. Wherever finished outside grade is above floor of basement, the outside surfaces of exterior walls and walls of pits and area-ways shall be painted with a heavy coat of waterproofing as specified in Par. B. of Art. 6. Walls shall first be thoroughly cleaned and all loose particles removed. Painting shall extend to footings and up to finished grade and thoroughly cover all surfaces. After it is dry, all surfaces shall be carefully gone over and all thin, broken or otherwise imperfect coverings shall be liberally re-touched. No waterproofing shall be covered by fill until inspected and approved by the Superintendent.

(C) DAMP COURSES. Tops of all foundation walls shall be protected by a layer of dampproofing as specified in Par. C of Art. 6, 4″ wider than wall below. In outside walls, this course shall be laid at grade line so as to form continuous dampproofness in connection with waterproof painting. Under inside walls, it shall be laid at level of basement floor. The Superintendent shall be permitted to inspect all damp courses. Before walls are started thereon, all corrections shall be made, if any are ordered by him.

PUBLICATIONS OF INTEREST TO THE SPECIFICATION WRITER.

Publications mentioned here will be sent free, unless otherwise noted, upon request, to readers of PENCIL POINTS *by the firm issuing them. When writing for these items please mention* PENCIL POINTS.

Kewanee Boilers.—Large catalog No. 80 covers boilers, garbage burners, hot water heaters, storage and pressure tanks and cast iron radiators. Standard filing size, arranged for architects, specification writers and engineers. Kewanee Boiler Co., Kewanee, Ill.

Rolling and Folding Doors and Shutters.—Catalog No. 51. Complete catalog profusely illustrated, covering all types of equipment for various uses. 136 pp. 8 x 11. The Kinnear Mfg. Co., Columbus, Ohio.

Lally Columns vs. Rolled-Steel H-Columns.—Booklet discussing best type of column for a large variety of uses, illustrated with drawings, diagrams and facts. 16 pp. Lally Column Co. of Chicago, 4001 Wentworth Ave., Chicago, Ill.

Water Mixing Valves.—Illustrated handbook showing thermostatic water mixing valves for showers and a variety of other uses. Diagrams and complete specification data. 32 pp. 7½ x 10½. Leonard Rooke Co., Providence, R. I.

Lithoprints, What They Are, How They Are Made, How They Are Used and What They Cost.—Loose-leaf portfolio with samples. Useful in every drafting room. Standard filing size. Lithoprint Co. of New York, 41 Warren St., New York City.

Saving Home Construction Costs.—Technical booklet on this important subject. Long-Bell Lumber Co., R. A. Long Bldg., Kansas City, Mo.

Greenhouse Studies.—Series of renderings by Vahan Hagopian which includes plans, elevations, sections and structural features of all types of glass enclosures, solar bathing rooms, glass enclosed swimming pools, aviaries and children's glassed-over play houses, as well as green houses of various types. A suitable binder will be furnished with first mailing. Lord & Burnham Co., 30 East 42nd St., New York City.

The Roof Beautiful.—Brochure illustrated in color on the subject of roof treatment. 8 x 11. 32 pp. Ludowici-Celadon Co., Monroe Bldg., Chicago, Ill.

Historic Mahogany.—Brochure showing many beautiful designs of pieces of furniture done in Mahogany, Chippendale, Hepplewhite, Sheraton and in the Mahogany of Colonial Days in America are shown. Mahogany Association, 1132 Broadway, New York City.

Color Harmony in Floors.—Brochure illustrating in color, reproducing samples of various woods so as to show grain, color and texture. 24 pp. Maple Flooring Mfrs. Assn., Exchange Bldg., Chicago, Ill.

Flooring Specifications.—Documents covering T-M-B flooring suitable for use in a wide variety of building. 4 pp. 8½ x 11. Thomas Moulding Brick Co., 133 W. Washington St., Chicago, Ill.

Ball Bearing Door Hangers and Special Hardware.—Catalog No. 24. . This handbook illustrates and describes hardware for all types of sliding and folding doors, overhead carrying devices, expansion bolts, ball bearing wheels, rolling ladders, etc. Fully illustrated, specification data, tables of sizes, fully indexed. 50 pp. 8½ x 11. McCabe Hanger Mfg. Co., 426 West 25th St., New York City.

The Story of Shearduct.—Brochure illustrated with full page pencil drawings of buildings by prominent *architects* in which Shearduct has been used. Specifications and 6 pages of sectional drawings. Tables of dimensions, etc. 40 pp. 8½ x 11. National Metal Moulding Co., Pittsburgh, Pa.

National Steel Fabric.—Illustrated book for the information of architects, draftsmen and builders. Covers various types of stucco work with working drawings and much useful information. 32 pp. 8½ x 11. National Steel Fabric Co., Union Arcade, Pittsburgh, Pa.

Terra Cotta Specifications.—Document covering the manufacture, furnishing and setting of terra cotta. Prepared in consultation with the Structural Service Committee of the A. I. A. and the Bureau of Standards. Standard filing size. National Terra Cotta Society, 19 West 44th Street, New York City.

Store Fronts in Architectural Terra Cotta.—Illustrated portfolio with many sectional drawings and construction details of great value to architects and draftsmen. 44 pp. 8½ x 11. New Jersey Terra Cotta Co., Singer Bldg., New York City.

Elevator Door Efficiency.—Illustrated catalog showing various types of elevator doors, detail drawings, specifications, safety appliances, etc. 8 x 10¾. The Peelle Co., Stewart Ave. & Harrison Place, Brooklyn, N. Y.

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Book of Hardware Designs.—Profusely illustrated brochure covering plain and artistic hardware. 75 pp. 5½ x 9½. Sargent & Co., New Haven, Conn.

Soss Invisable Hinges.—Booklet showing details, and specification data. Hinges for furniture, cabinets and general use in buildings. 24 pp. Soss Mfg. Co., Grand Ave. & Bergen St., Brooklyn, N. Y.

T. & B. Registers and Grilles.—78 Annual Catalog showing complete line with attractive drawings and engravings together with prices, dimensions, detail drawings and complete data. 76 pp. 8 x 11. Tuttle & Bailey Mfg. Co., 2 West 46th St., New York City.

Capitol Smokeless Boilers.—Booklet for the specification writer containing complete information, also Capitol Boilers, Square Type and Capitol Boilers, Winchester Type. Covers subject of these lines completely. United States Radiator Corp., Detroit, Mich.

Universal Safety Treads.—Data sheet with practical information covering all types of safety treads for use in all types of buildings. Also data sheet specifically covering anti-slip metal tread type. Universal Safety Tread Co., 40 Court St., Boston, Mass.

Von Duprin Self Releasing Fire Exit Devices.—A handbook on the subject. Illustrations of all types, sections and details. Complete instructions for specification and installation. Instructions for swinging doors. A very valuable book for every specification writer. 96 pp. 8½ x 11. Vonnegut Hardware Co., Indianapolis, Ind.

Wagner Data Book.—Catalog No. 19. Contains illustrations and descriptions of door hangers and tracks for overhead carrier systems, fire door fixtures and hardware specialties. Section and detail drawings and complete data for specifying. 176 pp. 8 x 11. Wagner Mfg. Co., Cedar Falls, Iowa.

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Wheatley Tiles.—Portfolio of color plates showing application of faience tiles to floors, walls and chimney pieces, etc. Plates showing a large variety of tile inserts in polychrome. Stock mouldings in any color. 10 x 12. The Wheatley Pottery Co., Cincinnati, Ohio.

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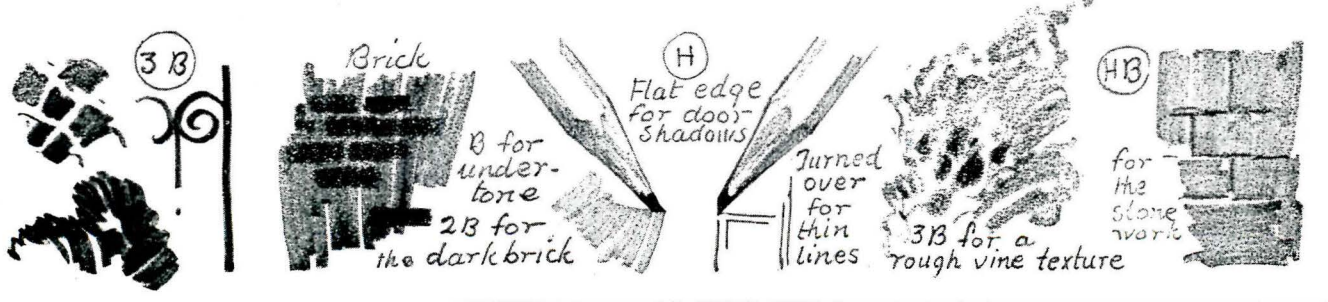

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